The Builder.

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London County Council and Technical Education.

THE recent publication of the Annual Report of the Technical Education Board of the London County Council, covering a period of a year from March, 1901, to March, 1902, comes at a very apposite time. The recent debates in the House of Commons on the Government Education Bill will have directed public attention to the question of technical education. This Report of the London County Council ought to give encouragement to those who are anxious to see greater educational progress in England. For it clearly indicates that, backward though we may be, advance, at any rate in London, is being steadily made every year. Before, however, making any comments on this Report, it is only right to congratulate the Council on its fulness and completeness. We would more especially draw attention to the interesting maps showing the distribution according to residence in the Metropolitan Boroughs of men and boys who are working in different occupations. There is one, for example, showing the number of bricklayers and bricklayers' labourers, another of those in the plumbing trade, another for the painting and decorating and glazing trade, and also one for the carpentering trade. It is to be regretted, however, that this Report is not published in a more convenient shape; it is issued in a folio volume of something over a hundred pages; if ordinary persons are to purchase it and to keep it, it should be half the size, and it would then be of such a shape that it could be easily preserved on library shelves so as to form a valuable history of the development of technical education in London.

The Council very properly commence their Report by giving a definition of the expression "technical education" and of the policy of the Council in regard to it:—

"The expression 'technical instruction' shall mean instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries or employments. It shall not include teaching the practice of any trade or industry or employment, but shall include instruction in the branches of science and art with respect to which grants are for the time being made by the Department of Science and Art, and any other form of instruction (including modern languages and commercial and agricultural subjects), which may for the time being be sanctioned by the Department by a minute laid before Parliament and made on the representation of a local authority that such a form of instruction is required by the circumstances of its district.

The expression 'manual instruction' shall mean instruction in the use of tools, processes of agriculture, and modelling in clay, wood, or other material."

In accordance with the above section, the Science and Art Department (now the Board of Education, Secondary Branch) sanctioned, as "required by the circumstances of the district," a list of 109 additional subjects or forms of instruction, by minute laid before Parliament in 1893.

The general policy to be pursued was laid down by the Council on the establishment of the Board in February, 1893, in the following resolution:—

"That, without committing itself to details, the Council considers that every district of London ought to be adequately provided with technical education of every grade, rising from the school to the workshop and the University, and appropriate to the chief occupations of its inhabitants; that existing institutions of each grade should be systematically co-ordinated to avoid overlapping and to provide for continuous education; and that early provision should be made, in whatever manner may be found expedient, for supplying the gaps at present existing; that the most pressing want is further inducements and facilities for the poorest parents to keep their children at some secondary or continuation school after leaving the elementary school; that the Council therefore instructs the Technical Education Board to provide as its first duty considerable further facilities for practical and technical education in the poorer and manufacturing districts of London, provided that no scholarship be given of a less value than 10*l.* per annum; and that the Council, recognising the value of the comprehensive Report prepared by Mr. Llewellyn Smith, refers it for the information of the Technical Education Board."

The progress which has been made since the Council undertook the technical education for London is thus clearly stated:—

"There are now in London no fewer than thirty-five well-equipped and efficient centres of definitely practical instruction in various trades, in which, during the present session, about 200 separate courses on practical trade work, each often including several classes, are being conducted. All but seven of these centres owe either their establishment or their extension, together with part of their maintenance, to the funds of the Council. In all the various sections of the building, engineering, printing, furniture, silver working, carriage-building, baking, and leather trades, in particular, the London artisan has now within easy reach, at nominal fees, opportunities for thoroughly perfecting himself in his trade which, taken as a whole, are second to none in the kingdom. Excluding the more sparsely populated suburbs, there is now in nearly every district an institute of this sort within half an hour's walk; and, as regards the greater part of the country, one within a quarter of an hour's walk. Nearly a dozen new institutions, or considerable extensions of existing institutions of this kind, are at this moment in progress."

We have reiterated over and over again that in order to have a good system of technical education it is necessary that a pupil should be properly trained in general education. We are glad to see that the Council insists on this point; they state that there is a very large consensus of opinion among the heads of chemical and other manufactories to the effect that to enable English industrial enterprise to hold its own against foreign competition the chief requirement is a thoroughly sound secondary education up to the age of eighteen or thereabouts, an education which is devoted more to the training of the intellectual faculties than to the acquisition of knowledge, however directly that knowledge may bear upon the industry in which the student is subsequently to be engaged. For the leaders of industry it has been pointed out that the first requirement is this thorough training of the faculties in the secondary schools, and that in this respect the student who has passed through the German gymnasium has an advantage as a rule over the English student who, having obtained an education in an ordinary secondary school, proceeds to a technical college or a university college for the study of science.

This necessity for a sound general education is the more important because it is clear that a large number of the younger workers of London are recruited from the provinces, a fact which makes the necessity of good education in the rural districts still more important. This fact is so important that it is desirable to give the conclusion arrived at by the Special Sub-Committee on the Building Trades in their own words:—

"What was felt, however, to be perhaps the most urgent need in connexion with the building

trades was the establishment of special building trade schools, which should provide a practical training for boys who leave the public elementary schools at the age of thirteen or fourteen. The evidence laid before the Sub-Committee tended to show that the building trades are now to a large extent recruited, not from London lads, but from men imported from the provinces. It was stated that London boys experience great difficulty in gaining admission to the trades. Whatever the economic and trade conditions may be which give rise to this state of affairs, it would seem that the best remedy is to be found in the establishment of special schools, which, without being imitation workshops like some French apprenticeship schools, should be avowedly devoted to the training of those lads who intend to enter the building trades, and should give a thorough course of at least two years' duration in manual training, and in the application of arithmetic, drawing, geometry, physics, and mechanics to such simple problems as would naturally arise in the actual practice of some branch of the building trades. The instruction might be of such a nature that a lad, on leaving school, would be able to enter a workshop, and to show that he has such knowledge of workshop methods and of the application of scientific principles to his work, together with such training of hand and eye, and such manual dexterity, as will render him in a few weeks deserving of a living wage, while he takes such an intelligent interest in his work as to be free from the great objection raised against boys generally, of their lack of interest, intelligent appreciation, and discipline."

Important as the whole Report is, space will only allow of noting a few points in regard to it. One of these, of considerable interest, is that during the present session 4,000 persons, making an average attendance of about sixty hours, are learning what we may call the theory of building. The practical work undertaken at the various classes consists largely of geometrical and gauged work, niches, "circle on circle" moulds, jambs, and segmental and elliptic arches. The work is set out by the students themselves. More than 300 young bricklayers now pass through these classes every year. In addition to classes for the building trade, numerous classes are held in builders' quantities. One great advantage of these classes is that they enable superior workmen, builders' clerks, and others, not only to fit themselves to become clerks of works, but even to become quantity surveyors—in other words, they enable any young and intelligent artisan in the building trade to rise from being a workman to a master, and, in fact, give him the most unlimited opportunities, one may say without exaggeration, of making a large income in the higher branches of the building trade.

It is altogether impossible to do justice to this interesting Report in a short space; it contains so many facts and statistics which are inseparably united. It shows, however, what we have always insisted on, that the Englishman is not behind the German or the American in natural abilities. He has been handicapped by the want of systematic education; and in London, at any rate, this defect in all its branches has clearly been remedied. But this Report is instructive from another point of view. Rome was not built in a day, and no amount of popular enthusiasm will construct the system of technical and secondary education without much labour and a lapse of a considerable time. The London County Council have been at work on the subject for nine years, and we are not beyond the mark when we say that it is only now that anything approaching a satisfactory system has been established in full working order.

SCULPTURE AT THE ROYAL ACADEMY.

AFTER the vast extent of the sculpture court at Paris, the two rooms at the Academy seem indeed a very restricted field for the exhibition of the most intellectual of the plastic arts; and yet even these small spaces are not filled with works of high importance. English sculpture has made immense progress during the last ten or fifteen years, and at its best it is not much below the best French sculpture now, only that English sculptors seldom or never seem to rise to the height of the interesting and suggestive intellectual conceptions we meet with from the greatest French sculptors. And even as far as Academy sculpture goes, this cannot be said to be a good year in sculpture.

The largest work, the colossal equestrian statue of Edward the Black Prince, by Mr. Brock, finds place in the courtyard. This is one of several modern equestrian statues which seem to owe their inspiration to the Colleoni statue, in respect of largeness and dignity of manner, and the firm seat and proud attitude of the rider. The personality of the Black Prince can of course only be a sculptor's conception, since no data exist for a likeness. Mr. Brock shows us a grand looking man, in a grand suit of armour, on a grand horse; that is about what it comes to; as a monumental work there is dignity enough in it, and it would certainly look well in the middle of a public square; but we cannot say that it interests us very much. The pedestal, as usual in these cases, is somewhat coarsely designed and profiled; it may, however, be only a temporary pedestal for the present position, and may be regarded as so far adequate.

Coming into the Central Hall, we are sadly in want of any work which by its importance and scale forms a central and dominating work. Mr. Brock has two heroic-size modern figures; one of them a bronze figure of a Royal Scots Fusilier to be erected at Ayr in memory of soldiers of the regiment who have fallen in recent campaigns in India and Africa; the other a marble statue of Gladstone, to be placed in Westminster Abbey, and which will certainly be one of the best memorial statues in that curious collection. He has clothed the figure in a gown of some official kind, thus obtaining some sculpturesque drapery and getting out of the frock-coat difficulty; and the face is full of vigour and character; as a portrait statue it takes a high place; but portrait statues are not what the art of sculpture was created for. The memorial Fusilier is spirited, and Scotch enough; it suggests, indeed, Burns in military uniform, and is so far true, no doubt, to the Ayrshire type. It may perhaps be the most suitable kind of memorial statue for the purpose; the most generally recognisable and intelligible; conditions which a memorial of this kind, appealing to the public spirit of a district, should undoubtedly possess. But this is sentiment rather than art, and we confess that boots and accoutrements in sculpture, even in bronze (which is no doubt better suited to them than marble) do not appeal to us; such things have to be done occasionally to meet popular wishes, but one can only condone them, not sympathise with them.

As against these portraitures, the only large work in the Central Hall which belongs to the province of idea sculpture, the Countess Gleichen's "Part of a Fountain Erected in Paris," can hardly claim higher praise than that of being pleasing. It consists of a fountain basin flanked by dolphins which form part of the margin, their tails joining the pedestal at the back, their heads coming to the front of the ramp; and between them, on the lower portion of the pedestal, the time-honoured bearded mask from the mouth of which, presumably, the water is to issue. These are trite properties enough. Above the pedestal rises the nude figure of a woman with a water-jar on her shoulder; a graceful figure, but hardly one to go out of one's way for. Mr. Clemens's recumbent "Sappho" does not help our ideal much, and is a tame work. Mr. Taubman's "Fairy Tales" is better than either of these; it has individual charm and expression; it is a bronze, rather under life size, of a nude young girl half reclined on the ground, looking upward with an expression of eager interest in her face. This is a work which, besides being well modelled, has point and meaning. The Hall contains three efforts in decorative work, of which the most satisfactory on the whole is Miss (?) Steele's "Design for Bronze Sun-dial." This is a support on a tripod plan, divided into three faces each of which contains a bas-relief draped figure; the figures are divided by vertical bands which, like the supports at the foot of the whole, are well designed for metal and have the proper character for the material, and the outline and balance of the whole is satisfactory. This certainly cannot be said of the more ambitious "Decoration for a chimney piece" by Mr. Alexander Fisher, who is a very good decorative artist in metal and enamel, but has rather gone beyond his tether in this tumultuous composition of groups of figures running in and out of caverns one does not know why; it is true we are told it is "The Past, Present, and Future," and there is exceedingly hackneyed poetical quotation tacked on to it; but it does not any the more explain itself; and as to its being "Decoration" for a chimney-piece, the total effect is anything but decorative, and quite out of place for such a situation. Mr. Hodge's "Baptismal Font" is decorated with attached figures of children at the angles, well modelled and well connected with the bowl, but there is a want of any Christian symbolism or suggestion, which surely a font should have. The centre of the Hall is occupied by Mr. Swan's model of a wounded leopard, admirable in its way, but a rather poor centre-piece; and one gets somewhat tired of these animal subjects—the materialism of modelling.

In the Lecture Room the scene is more encouraging; though there is not here anything that can be called a great work in sculpture. But we find prominent among the works placed against the walls of the room Mr. Colton's fine alto-relief group "The Crown of Love," which was exhibited in plaster last year and is now to be seen in marble. This is a work which is sculpturesque in character and design, and moreover contains a fine idea; what is wanting to make it entirely satisfactory and impressive it would be difficult to define precisely, but one cannot help feeling that the sculptor has just fallen short of what the work seems to aim at; it is, however, a fine and interesting piece of sculpture. It would

have gained something if the group had been enclosed in a decorative framing, instead of being left with the rough marble as a ground for the figures. Among the works placed in the centre of the floor is another group by Mr. Colton, "The Springtide of Life," which, less serious in its aim than his larger work, is more satisfactory in that it is more completely successful; it represents two children, a young girl and an infant boy with whom she is playing, putting her arm round his waist apparently with the intent to tumble him into the water; so we read the incident at least; it is a light piece of *genre* sculpture of a playful kind, but the girl's figure is admirably modelled, and the whole group complete and spirited in conception and execution. On the whole we may say that, taking his two works together, the honours of the sculpture are with Mr. Colton this year. Mr. Reynolds Stephens exhibits one of those productions, half sculptural, half decorative in aim, which represent a recent movement in English sculpture, first suggested perhaps in such works as the late Mr. Onslow Ford's "Music" and "Applause," and which Mr. Stephens has developed more than any one else. It is a high narrow bronze pedestal supporting a group of father, mother and infant, a pretty but not remarkable group in a sculptural sense; the octagonal pedestal is divided by uprights which branch out at the top into rather too naturalistic foliage, each division being further marked by a small bird perched on a part of the ornament, all of them symmetrical in design and all turned one way, so as to impart a kind of circular movement to the design. It is entitled "Love's Coronet," and is a production which must, to be fairly judged, be regarded as a whole, pedestal and group together—as an ornamental work with a pleasant symbolism in the details; not as mere sculpture. Next to this comes a production of a higher class, the "Askos and Kylikes" of Mr. Oliver Wheatley. Here a nude Greek youth is seated holding out at arm's length a kylix (flat Grecian cup) on which he has been working, to study its effect; one or two other similar vessels lie at his feet. This is one of those works in sculpture which, without any inner or symbolical meaning, represent with a happy truth and grace a moment of human action—an instant of life seized and embodied in sculptured form; and as such this is one of the best productions of this year's sculpture. Mr. Forsyth's recumbent figure of the late Bishop of Wakefield is not more than the kind of memorial sculpture which may pass muster in a cathedral, and Mr. Bertram Pegram's "Down to the Sea" is not more than *genre* of a harmless kind. Mr. Swan's "Boy and Bear Cubs" is also *genre*, but a great deal more incisive and characteristic in treatment; the thin figure of the boy turning half round to repel one of the cubs, is a capital piece of life-like work; as to beauty, Mr. Swan does not seem to aim at that quality in sculpture; life-likeness in a material sense seems to be enough for him; and no doubt materialism with first-rate execution is better than idealism with second-rate execution.

The memory of Mr. Onslow Ford is represented by five portrait busts, none of them of very special interest, and two small ideal works. One of these is a small and delicately modelled recumbent marble figure under the title "Snowdrift," a nude figure reclined on a couch of snow, which gives one a rather painful sense of chilliness—perhaps what was intended; it is a pretty and delicate fancy. The other is a small silver group of "St. George and the Dragon;" that is to say, all is silver except the face of the knight carved in ivory; the rest is silver armour. The dead dragon beneath his feet is very finely treated so as to be really decorative in effect; it is a very successful little work of its class. Mr. Thornycroft exhibits a portrait bust and four small figures; a realistic statuette of a working man under the title "Pay Day;" a small bronze nude—"By the Sea," not remarkable; a bronze of a sleeping cat; and a silver model of his "King Alfred Memorial at Winchester." It is difficult to form an estimate of what is probably a work over life-size from this model; it shows the King as an armed man holding up his sword; a dignified figure, standing on an irregular mass representing natural rock—a kind of pedestal we hardly like; it is a method of treatment which seems like evading a difficulty. This kind of treatment is supposed, no doubt, to give a rugged grandeur to a monumental work, but it is rather a piece of false sentiment; the pedestal, like the statue, should be a work of art and design; natural realism is out of place.

Among the other works ranged round the walls, one of the largest is an alto-relief ("bas-relief" it is called, but hardly with correctness, since the figures are almost entirely made out in the round) by Mr. H. A. Pegram, entitled "A Sea Idyll," and which gives the impression of representing the nude figures of a mother and her two little boys playing in the surf, though a more romantic meaning may be intended. As the work of a very capable sculptor it is rather disappointing, and hardly justifies its scale; there is a want of style about it, and it gives too much the impression of being a sketch which was hardly worth lifesize scale. Mr. Goscombe John's bas-relief "Memorial to Sir Arthur Sullivan," to be executed in bronze for St. Paul's Cathedral, is a plaster *maquette* fixed too high up on the wall to be very well seen. It is in the form of a large tablet with a bust of the composer flanked by two small cherubs or genii, with a figure above which probably represents "Music," and which is not as interesting or original as Mr. John's figures usually are; the effect of the whole, however is agreeable and decorative, and very suitable as a memorial.

Following some of the smaller works round the walls, we find two miniature bronze heads by Mr. G. Frampton, "The Lady of the Isle of Avelyon" and "Lyonors" (the latter name we presume is out of the "Morte d'Arthur," though we do not recollect it at the moment); they are placed as pendants on either side of the doorway, and are heads with a great deal old-world poetic suggestion about them. Mr. Goscombe John's "Merlin and Arthur" and Mr. C. J. Allen's "Rescued" are two fine little groups on a small scale; the latter, a father, mother and infant, is very expressive and well-composed group, and would be worth carrying out on a larger scale. Mr. Mark Rogers's "L'Allegro" is a well-executed low-relief head; the expression does not, however, answer to the title. Mr. Frampton's low-relief panel in memory or in honour of Mr. James Fleming, to be executed for the Glasgow School of Art, is a memorial panel of considerable beauty and originality. It shows a low-relief portrait head in the centre (we wish the artist could have dispensed with the realistic coat-collar), and a decorative design on each side consisting of conventionalised trees with bells hung between them—a symbolism, probably, to which we have not the clue; but the whole work is very graceful and in the most refined taste.

One of the most noticeable points in English sculpture of late years has been the attempt to treat the bust as something more than a mere effort of portraiture; to give to the portrait bust, on the one hand, a certain idealised character, and on the other hand to use the bust as a form of ideal creation in sculpture. The present exhibition, amid a good many examples of the mere portrait bust, in which a faithful likeness is the main object, contains some instances of both the classes of work above referred to. Mr. Frampton's bust of the Marchioness of Granby—his diploma work—is an example of the portrait bust with a certain degree of poetic and decorative character imparted to it by the method of treatment and the ornamental accessories attached to it; it is in every respect a most refined and delicate piece of work. Mr. Arthur C. White, a sculptor whose name we do not remember before, illustrates the ideal expressed in a bust in two works, the sweet thoughtful-looking head entitled "Isabella," and a weird bronze head in which he has symbolised Shelley's conception of "The Witch of Atlas"; and Mr. Lucchesi attempts an even more fanciful creation in his bust entitled "Sunflower," a terra-cotta head growing out of broad green leaves, in which the wistful expression of the face, with lips parted, further carries out the ideal suggested in the title. As a contrast we have Mr. Stirling Lee's almost humorous sketch, for it is little more, of the highly characteristic physiognomy of the late Mr. Brett; and a Berlin sculptor, Herr Klein, sends a clever realistic bust of a lady with short dark hair, executed in three different marbles, with the eyes coloured also; a piece of trickery, but very cleverly executed. Mr. Frampton's bust of Chaucer, to be executed in marble for the Guildhall, follows faithfully what is supposed to be (we know not on what authority) the authentic likeness of Chaucer; the half-humorous and half-sensual expression of the face at all events accords admirably with one's idea of the poet of the Canterbury Tales.

Designs for decorative work, which are included among the sculpture—though they ought to have a special gallery and department to themselves, if the Academy were really what it professes to be, an Academy of Arts—are fewer and less important than in some previous years. One or two of the best are we presume by a lady, at least the name is given as "Florence H. Steele," though we observe that the alphabetical list of names does not attach either "Miss" or "Mrs." to the name. The silver-gilt pendant and the yachting trophy of this artist are good work. Mr. Lutiger's "Buckles and brooches" have too much of *l'art nouveau* about them for our taste. A case of medals by Mr. Saulles, who is occupied with the new coinage, show what may be called respectable work, but not of the highest order of the medallist's art.

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NOTES.

Workmen's Compensation Act.

THE case of Cooper and Crane *v.* Wright, reported in our issue of last week, again furnishes an example of the difficulty in construing the Workmen's Compensation Act. This is almost sufficiently exemplified by the fact that the House of Lords was divided in the proportion of three to two, and that the majority were of a different opinion to the Court of Appeal; but, in addition to this, Lord Brampton characterised the Act as calculated to provoke rather than to minimise litigation, whilst Lord Robertson said the Act was incapable of legal construction. The difficulty experienced in the solution of the question as to whether a man subcontracting with a builder who was erecting a building for the building owner was liable to indemnify the builder for compensation the builder had been compelled to pay to the representatives of one of the sub-contractor's workmen, has arisen from the use in Section 1 of the Act of the word "employer," with the limitation contained in Section 7 that the Act only applies to employment by the "undertakers" as defined in the Act. In the case of building operations, the undertakers are defined to be "the persons undertaking the construction, repair, or demolition." The minority in the House of Lords and the Court of Appeal considered this to include only the building-owner himself engaging in such an operation, or some person directly contracting with him; but the majority have taken the wider and, as we venture to think, the more practical view, that, independent of any question of contract, any person actually engaged in the ordinary meaning of the words on any operation of construction, repair, or demolition comes within the "description" contained in the Act. Lord Davey declined to call it a definition. In our "Note" to the case of Wrigby *v.* Whittaker, p. 490 *ante*, we had occasion to point out the difficulty so frequently experienced in determining what constitutes an employer, also an undertaker, so as to bring him within the Act, and we are glad a decision has now been given by the House of Lords on the question of buildings. Equal difficulty and uncertainty, however, still exists in the case of docks, wharves, quays, and warehouses, the Court of Appeal having held a workman working for contractors in painting a ship in dock to be within the Act, because his employers were undertakers having the "actual use or occupation of the dock." No finality can be arrived at short of a decision in the House of Lords.

Electric Lighting at St. Paul's.

BY order of the Dean and Chapter a demonstration of the newly installed electric lighting at St. Paul's Cathedral was given to members of the Press on Wednesday evening. As to the practical side of the installation some information will be found on p. 542; but a word is due to the artistic effect. In the nave the fine candelabra designed by Mr. Penrose and Mr. Pegram have naturally been retained, but with new basin-shaped glasses beneath the lights, which have a good effect and do not clash with the style of the candelabra. Under the dome are hanging chandeliers of bronze, designed by Mr. Somers Clarke, the Architect to the Dean and Chapter. These are very successful; they are graceful in line and at the same time they have the large and massive proportions required in such a building as St. Paul's. In the choir are other hanging chandeliers also designed by Mr. Clarke, having a double system of lights, the lower group in glass globes lighting the lower part of the choir; the upper group, close over these, having the lights concealed in bronze shades opening upwards, so as to throw light on the choir roof while the lights themselves are concealed. These two sets are separately wired, so that either set can be switched on or off independent of the other; and a beautiful effect it was to see first the lower lights only lit, and the bronze scrollwork immediately over them sparkling in the light; then to see these turned off and the upturned lights lit, leaving the lower portion of the choir in darkness and illuminating the mosaic vault and the under-side of the main cornice. This effect is unfortunately not likely to be often seen, but it is so fine and picturesque that it was well worth while to see it for once on this occasion.

The Society of Engineers.

THIS Society, which was founded in 1854 "for the advancement of the science and practice of engineering," naturally includes all branches of the profession, although from the recently published transactions for the year 1900 it might be judged that sanitary engineering formed the chief object in view, for out of eight papers read and discussed no less than six have direct reference to sanitary work. Very likely the fact that the late President is a municipal engineer of many years' standing may have had some influence upon the nature of the papers offered for consideration; and although all of them are worthy of perusal, it seems rather a pity that the proceedings of the year in question were not a little more diversified. Three contributions relate to drainage, two to the kindred subjects of subways for underground pipes and irrigation, and one to investigations for water supplies, while two out of the three vacation visits were to works of a sanitary nature. Two papers of interest to general engineers were read upon the production of metallic bars and tubes under pressure, and the treatment of low-grade iron ores for the smelting furnace. An excellent feature of the volume is the reproduction of discussions upon the various papers, for it nearly always happens that useful light is thrown upon a subject by the comments of those who have come to listen. In the case of the "Society of Engineers," we are pleased to find that the meetings have been attended by many well-known men, whose participation has certainly tended to enhance the interest and value of the proceedings.

Fountain-court, Strand.

IN clearing the ground for an enlargement of the Savoy Hotel and the projected improvements on the adjacent Beaufort buildings site, has been pulled down the west, and remaining, side of Fountain-court, from which the steep flight of steps descended to the precincts of the former Savoy, No. 3, one of the houses that have just been demolished in Fountain-court, was the home during the last seven years of his life of William Blake, who lodged in the back room on the first floor, and died there on August 12, 1827. In that room Blake passed the closing days of his life in working upon his set of plates, for John Linnell, "Inventions to the Book of Job;" and an impression of the frontispiece, with the Creator and Wisdom, of his "Europe, a Prophecy," depicting the vision which, as he said, hovered over his staircase, and for tinting which he was to receive three and a-half guineas. With a final effort he drew a likeness of Katherine Boucher, his wife. Opposite, in the court, stood the Occidental tavern, reputedly more than 270 years old, and latterly known as the Coal-Hole, which, with the two adjoining houses, suddenly collapsed on the morning of Saturday, March 26, 1887, after they had been dismantled for the building of Terry's Theatre. Fountain-court is named after the once famous tavern of that sign in the Strand, the home of the Fountain Club as politically opposed to Walpole. In one of his letters Dennis, the critic, describes a meeting there whereat "after supper we drank Mr. Wycherley's health by the name of Captain Wycherley." Strype cites the Fountain, and

> the alley that leadeth to Fountain-court, a very handsome place, with a freestone pavement and good buildings which are well inhabited.

The Fountain gave place to Ries's Grand Divan, since Simpson's, behind which is Herbert-passage (extending from the court to Beaufort-buildings), which will be absorbed in the rebuilding on the cleared ground.

The Grammar School, Huntingdon.

NEW buildings for the Grammar School are about to be erected upon a site facing the cricket-field after designs prepared by, we gather, Mr. Borissow. The existing school buildings, in the High-street, where Oliver Cromwell had his early education, had been the chapel of St. John's Hospital, which was remodelled and partly rebuilt in 1863, and fifteen years afterwards was restored, under Robert Hutchinson's superintendence, at the charges of the late Dion Boucicault in memory of his son. The chapel had been encased with brick in the middle of the seventeenth century, and at the removal of the brickwork a twelfth-century doorway was discovered; the ground plan showed traces of the north and south aisles of the chapel of the hospital founded and endowed for the relief of poor townsfolk and the support of a free grammar school, *temp.* Stephen, by David, Earl of Huntingdon, afterwards King of Scotland.

The Tower House, Leicester.

THE demolition of this old building, octagonal on plan, will shortly be proceeded with for carrying out a widening of the High-street; the outer casing of brick work has been stripped off the shell, which is of stone somewhat roughly worked and laid. An inscription on the tower records that it had been part of a building occupied by Henry third Earl of Huntingdon, in the reign of Queen Elizabeth, and that it had been the lodging of Mary Queen of Scots in 1586, of King James I. in 1612, and of Charles I. in 1642. We may add that the house of the Earls of Huntingdon was known as Lord's Place, and stood in the Swines-market, latterly the High-street, near the East Gates (pulled down in 1774), and that the Earl Henry, who died *s.p.* in 1595, sold the site and buildings of the Augustinian Abbey of St. Mary de Pratis, Leicester, to his younger brother, Sir Edward Hastings, whose

descendants lived in the borough and county and eventually succeeded to the Earldom of Huntingdon.

Pageantry and the Masque.

MISS MAY MORRIS chose "Pageantry and the Masque" for the subject of her paper read before the Society of Arts on Tuesday evening. We went expecting to hear some suggestive remarks on the approaching Coronation pageant. In this we were disappointed. The only reference to modern pageantry was made to the Lord Mayor's Show, which Miss Morris once witnessed on a rainy day; about this she significantly remarked that the only artistic effect produced by the show were the fire brigades and their equipment. She might have added to this minority the brewer's dray and team. In any case it is obvious that the finest effects of present-day life are found amongst things made for action and usefulness. Their beauty lies in their appropriateness. What will stir the imagination and produce a thrill in the coming processions as much as the brightest uniforms and the most martial music will be the sober-coloured 47 gun, manned by the handy man in equally subdued colouring. We do not depreciate Miss May Morris's appeal for colour in modern life. It is a loss we can only deplore. To reproduce the colour of the Middle Ages is as hopeless a task as it is to look for practical artistic results from the money about to be spent for that purpose by borough councils. The public are delighted to hear of art in the abstract, but when it comes to the smallest practical expression they are wholly at sea. Twentieth-century pageantry will be represented, with an impressiveness the like of which history cannot recall, in the coming naval review at Spithead.

Art for Schools Association.

THE Art for Schools Association, which does good work in endeavouring to provide cheap and good pictorial representations for the walls of schools, held its annual meeting at 46, Great Ormond-street on Thursday, when an address was delivered by Sir W. Richmond. Among the specimens of the Association's publications which were hung on the walls of the tea-room was a large and fine black and white picture, a woodcut, "The Plough," drawn specially for the Association by Mr. Strang, who in this instance at least has produced a design which is powerful without being ugly or grotesque. The publications of the Association are grouped into three classes: Historical Subjects, Studies of Natural Objects, and reproductions of Standard Works of Art, or occasionally of drawings made specially for them. The aim of the Association is an admirable one, and we wish it continued success.

Messrs. Doulton's Work.

MESSRS. DOULTON have been holding, at their show-rooms on the Lambeth Embankment, a small exhibition of their most recent works, partly in view of the presence of a good many strangers in London this year. The works exhibited include a large collection of the vases and other articles in stoneware, Doulton ware, and Lambeth Faïence, for the design and make of which the firm has become celebrated; and there are also some exhibits in the class of higher art, the principal being three alto-relief panels by Mr. Tinworth in plain terra-cotta; two large colour panels by Miss E. Thompson "Mermaids" and "Sea-nymphs," and three panels in "vitreous fresco" designed by Mr. A. F. Pearce, and representing three scenes from the life of Sir Galahad. We must confess that we think the best part of the exhibition consists of the works of industrial art, rather than what may be called the fine-art designs. We saw many beautifully designed vases and other such articles, all good in form and fine in colour and execution, and unexceptionable in point of taste; and to say this is to say much, considering what an amount of work of this kind the firm turn out. But Mr. Tinworth's sculpture is what we should call sculpture for the middle classes; with all his undoubted natural talent he has not acquired style in sculpture; he can make his figures tell a story in a dramatic manner, but the result in an artistic sense is rather of the "Bible-picture" class. In the "Mermaids" and "Sea-nymph" panels, again, though the colour effect is decorative, the figures are not good enough to be acceptable as figures; in the Sea-nymph especially the feet are too large and the head too small. It is hardly worth while to do things of this kind unless they are done better than this. There are many people, no doubt, to whom Mr. Tinworth's panels of Biblical subjects will appeal; but they will not be among the best educated class. The operation of "throwing" clay on the wheel was practically illustrated for visitors, and a very pretty sight it is to see the clay vessels growing and taking different shapes from moment to moment under the hand of the artificer.

Messrs. Lawrie's Gallery.

THE new art gallery opened by Messrs. Lawrie, at 159, New Bond-street, forms an important addition to the list of our smaller exhibition galleries; the rooms are well-lighted and approached by a spacious vestibule. The opening exhibition promises well for the future, for it consists of a collection of works by Turner, known as the Farnley Hall Collection, many of which are little known. They are nearly all, or perhaps all, early Turners; the large picture of "Dort" (one of the only three oil pictures in the collection), calm water and craft motionless on it, almost suggests Callcott in colour and style, though there is something Turneresque in the arrangement of the composition. Among the water colours are some exceedingly good examples of Turner's earlier manner in landscape; among the finest are "The Source of the Arveron" (9) and the often-painted "Devil's Bridge" on the St. Gothard. Among the Rhine series the "View of Venice, with the Rialto" (28) is a good example of Turner's care in drawing architecture in his earlier days. "Bolton Abbey" and "Bonneville" (34 and 36) are two fine pictures; and "A First-rate Taking in Stores" (29) illustrates afresh Turner's love for the old bulky wooden men-of-war; the foreshortened drawing here of a three-decker, with her massive bow and cutwater (or whatever the erections on each side of the bowsprit were called), gives the modern spectator a vivid conception of the picturesque element in the old line-of-battle ship. "Scarborough" (34) one of the largest works exhibited—a very large one for a water-colour—is remarkable both for its splendid atmosphere and colour, as far as the colour goes, and as an illustration of the limitations either of the palette, in those days, or of the ideas as to local colour. The wooden posts in the foreground, for instance (part of an old groyne), would not nowadays be painted nearly the same colour as the sand, which they certainly cannot have been; nor would Turner have so painted them in his later days. But that kind of treatment, found also often in De Wint, was "breadth"; a quality which it must be admitted the modern passion for local colour has rather made shipwreck of. The "Scarborough" is an excellent example of the best achievement of the era of the brown water-colour school. The "Farnley Hall Sketches," and the "Sketches on the Farnley Property" are of rather unequal interest; in the drawing of the interior staircase, by the way, the columns must certainly be too thin in proportion. But there are seventeen studies of birds or birds' plumage, which are admirable, and show with zeal and industry Turner went into that study of detail which enabled him, even when painting on a small scale, to touch in his birds and plants in a truthful manner. It is a pity that he did not bestow equal care on the study of the human figure, in which he never succeeded, as various works in this collection exemplify.

The Fine-Art Society.

AT the Fine-Art Society's Gallery is a collection of water-colour drawings by Mr. Mortimer Menpes, under the title "The World's Children;" a title rather too extensive, since by far the larger proportion of the subjects are English. Mr. Menpes is a very clever artist in certain ways, but it is certainly not his mission to paint the child. We have seldom seen pictures of children more devoid of beauty either of face or manner than most of these; the curious thing is that the artist has not even caught the characteristics of child physiognomy; most of his girl children, if you hold your catalogue in front of the figure so as to screen all but the head, have the faces of grown-up women; no one would ever suppose them to be children. "Good Night" (54) is about the one exception among the English children; the solemn little Chinese and Japanese children in Nos. 46 and 58 are good and characteristic; but as a whole the collection is most disappointing. We could hardly have believed that a collection of pictures of children could have been made so unattractive and uninteresting.

Shop Architecture.

JUDGING from an illustrated trade card which has been forwarded to us, there seems to be a new branch of the architectural profession arising, under the style of "architects and shop-engineers." The card in question gives a view of a very large commercial establishment in Reading, and the business of the "architect and shop-engineer" appears to be to carry three upper stories, tumultuous with gables, projecting bays, and turrets, upon two continuous stories of plate glass without a break except for the doors. The effect from an architectural point of view is something beyond criticism.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE usual fortnightly meeting of the Royal Institute of British Architects was held on Monday night at the rooms of the Institute, 9, Conduit-street, the President, Mr. W. Emerson, in the chair.

Mr. Graham announced the decease of Mr. H. D. Shepard, an associate, elected in 1867. The deceased gentleman won the Institute medal for essays in 1869.

The Plan of the House in Relation to the Garden.

Mr. T. H. Mawson then read a paper on "The Unity of the House and Garden," of which the following is an abstract :—

Mr. Mawson explained that his paper bore entirely upon the country house, and although his remarks would in general be true to the title and be concentrated chiefly upon the union of the house and garden, he purposed to dig deeper and examine the foundation upon which every successful scheme of habitation must necessarily rest. Every truly pleasant, healthy, successful abode must rest upon considerations deeper than stones or bricks and mortar, trees and flowers. At no time, if the scheme is to be successful, can the house and the garden be divorced from the surroundings; all must be viewed together in unity.

Where there is perfect freedom of choice, the three great considerations in deciding upon the site and position of a house are : climatic conditions—*i.e.*, whether the pervading character of the air is humid or dry; the nature of the subsoil, whether sandy, gravelly, or clay; and the aspect—for no matter what the prospect offers, it is unwise to build upon the north or north-west or north-east side of a hill or knoll. The nature of the subsoil is a point needing more than ordinary caution ; not only the site of the house itself, but the immediate surroundings, should be tested. For health, beauty, luxuriance, and ultimate cheapness, select a site with an under-stratum of gravel or marl, and a good surface-covering of loam.

The first great question to be decided is: Are purely artificial considerations to be all-sufficient ; or are the artificial considerations to hang upon, and be guided by, the larger aspect fixed and abiding? The pure, healthy mind recognises that those who have built well and lastingly have been willing to make mere personal display and selfish interests subservient to and harmonise with their chosen surroundings. Such a mind espouses local customs in building and local material, and indigenous trees and shrubs and acclimatised flowers in gardening, making them the characteristic keynote.

The architect and garden designer must realise that the *home* is the precious thing, and not the house ; that their part is to give to the endearments and necessities of home a suitable expression and dress ; their efforts must be concentrated upon the scenic part of the play, true, real, and human, to be enacted therein. The needs of the proprietor should be clothed with a character to accord with the surroundings and expressive of his status. The impressions and inspirations of the spot should guide the architect and the garden designer both in respect to the preparations of the plans and also of the elevations and of the garden scheme. Given a house designed as a thing by itself without reference to its fixed, unalterable surroundings, the garden designer has a well-nigh impossible task imposed on him.

In the absence of the skilled designer, where the laying out of the garden is entrusted to the local nurseryman, the unity of the house and garden may still be secured, for it is open to the architect to suggest in the most unmistakable manner by his plan of the house, the general laying out of that portion of the site which most nearly concerns the architecture. The author illustrated this point by reference to two alternative sets of plans arranged for the same site, it being shown that the approved plan, with a little help from the elevations, had determined the larger part of the immediate surroundings of the house. Other actual examples were cited, and the plan and general arrangements described by the author, to show how easy it is to make the happy combination of house and garden impossible.

Seldom when a plan of a country house is given do we find any indication of the compass points thereon. This consideration deserves more importance than it receives. Its absence suggests the idea that convenience and skilful planning is everything, and aspect secondary or nothing.

The author brought the several considerations dealt with in his paper to a head by describing his plan and treatment of gardens on the top of Flagstaff Hill, Colwyn Bay—a site including within its twenty acres almost every difficulty with which the garden-maker could have to deal. The site commands an extensive panorama of sea and landscape scenery, and the proprietor wished the house so placed and planned that he should not only obtain the best views from each room, but also that he should have the best aspect (a great difficulty considering the direction of views), ensuring the rooms being as sunny as possible and securely protected from the wind, and be able to find a sheltered walk on which to promenade from whichever direction it might blow. The author exhibited plans showing how the first conditions were met, all the entertaining rooms excepting the morning-room, which only obtains the morning sun for a very short time, and the billiard-room, on which the sun falls a little after midday, complying. The condition as to protection from the wind was the most difficult to meet. The two prevailing winds are from slightly south to west and east to north. The stables, lodges, cowsheds, and kitchen wing made an ample protection from the first, but the second could only be partially guarded against. The curved drive was well protected, the ground between the walk and the kitchen garden having been raised 14 ft. or 15 ft., and planted with maritime pines, Scotch firs, and evergreen oaks. The latter will in years to come give the best possible protection, without growing so high as to obstruct the view from the house. In its original state there was an entire absence of shelter, but the author's treatment resulted in a garden as sheltered as it was sunny, and as shady as any in the valley below.

In the next plan the main and lower terrace and fountain garden came naturally in front of the entertaining rooms, and the tennis lawn on the west ; the kitchen garden, generally the most perfect part of all, was in direct communication with the terrace. There within the high walls could be found shelter from the winds ; here one could pluck the earliest flower and the last rose of summer, the most delicious strawberry and the most luscious plum.

A country house and garden is impossible without an orchard ; one cannot think of an orchard without realising how beauty waits on use. Preferably its position should be near the kitchen garden. Plant regularly in straight rows ; do not mix cherries and apples, pears and plums too much, but try to obtain effect by grouping each together. The orchard, however, is by no means the end of the garden. Away in the hollow is the lake, margined with water-hawthorn and water-lilies. On its banks are knolls of oak and masses of rhododendron, interspersed with wild gardens and glades of grass.

In conclusion, the author observed that he had referred specially to neither the formal nor the landscape school; there was work in plenty for both ; the help of both was needed. If we could divest ourselves of some of the prejudices called schools, and devote our energies to earnest and unstinting study, and apply that study to the perfection of our craft, and if we could allow our professional jealousies to give place to a spirit of mutual helpfulness, we might yet do something to advance the peaceful arts of our country.

Mr. Milner, in proposing a hearty vote of thanks to the reader of the paper, said he had had the opportunity of looking through the paper that afternoon, and he must congratulate Mr. Mawson on the goodness of his opinion on landscape gardening. He agreed that architects and garden designers should work together in harmony, but he would add that the architect should have the prevailing view with respect to the treatment next to the house, so that he might be assured that that part might have a continuation of the character of it. The architect should have the plan of the whole laying out submitted to him. It was most important that the garden designer should be able to realise his picture finished. In passing he would advise architects to give their houses more base. He did not agree with Mr. Mawson as to working up to a house, but away from it.

Mr. W. G. Wilson, in seconding the motion, said he had listened to the paper with very much interest. It had been their fortune in listening to papers by gentlemen not members of their own profession to be hauled somewhat over the coals, and they had been hauled somewhat that night. He must say that in the designing of a house it had never been his failing, and he knew of no architect of any repute whatever who would fail first of all to consider the points of the compass in designing a house. He did not think that any architect of any capacity whatever would forget the points of the compass in designing a country house. But he had had the difficulty forced upon him with regard to designing gardens which Mr. Mawson had raised that night, and he was bound to say that on his part, and probably on the part of every architect who had designed a country house, the difficulty had not emanated from the architect, but from the gardener who had been called in to advise with regard to laying out the garden. He thought that any architect who designed a house was most wishful not only that the best points of his house should be emphasised and viewed from the gardens, but that the view of the surrounding country from the house should be led up to by the foreground. Therefore, he felt that Mr. Mawson had made rather an uncalled for charge—a charge which had been made against them by gentlemen connected with other arts besides that of gardening. There was one little point he wished to make. Mr. Mawson had spoken out that night, and they had heard what he said but as a matter of fact the members present rarely heard the papers which were read from the desk. He did not know whether that could be remedied. He had listened with intense interest to the paper, more especially as in a house which he had designed near Liverpool the question of the garden came in. The house was situated in what they might call a rustic position, and one would suppose that the best treatment would be what they called formal gardens, but over and beyond the site of the house there was a far distant view of the Welsh Hills, and the proprietor pointed out to him that a formal garden was quite unsuited for the position, and that instead of the garden being a formal garden which would be a sort of complement to the house, it ought to be a foreground one from the windows of the house, and he insisted on having rockeries and other things laid up to this far distant view of the Welsh mountains. He would like to know whether the landscape garden was the proper thing or the formal garden. Mr. Mawson's paper was an excellent one, and his language in many places was beautiful, but he did not think it quite fair to the profession to show plans of a large and important house, apparently with the whole of the entertaining rooms facing due west and the kitchen and other offices facing south. He fancied that must be unique and was not a difficulty which Mr. Mawson would be likely to have to overcome very often. He would be glad to hear his advice with respect to the house he had mentioned as to whether it should have been a formal garden, or whether he would hold that the view from the house should have been considered, and the garden made a stepping-stone to the scene beyond.

Mr. Lorimer said he had listened with great pleasure to the paper, and he entirely endorsed the view as to the great importance of aspect in laying out gardens. He did not think that the plan given showing the kitchen and scullery facing due south was by any means an unique example. He had seen many houses where the architect seemed to have got into his head the type of elevations he wished to put, and had fitted in his plan to assist this elevation, and had made the kitchen and other offices face not only due south, but entirely overlooking the garden. In his small experience he had found that clients were generally very keen about their servants not overlooking the garden. He thought on going to a site first, the architect should carefully consider the blocks of his house ; where his kitchen block ought to be situated, and the direction in which it should look, and where the more business part of the house should face. The method of approach to the house was also of the utmost importance, and at all events in Scotland, where they had to nurse every ray of sun they could possibly get, the approach was always, if possible, in the north, and all their living rooms were to the south and the west. With regard to the question of treatment re-

ferred to by the last speaker, he thought that to a large extent was a matter of instinct. He thought when the architect got on the site his instinct told him more or less whether a formal treatment or a natural treatment was the one to be used for the particular plan, and he did not see that any hard and fast rule could be laid down on that matter. Each piece of work given to the architect had to be looked at from its own standpoint. The architect, he thought, also should consider the surroundings of the house—the lay-out of the house. Unfortunately, most architects lived in towns, and not in the country, and he thought it was only the architect who had lived a great deal in the country who could lay out a garden. The ideal connexion was when the architect mapped out the whole scheme, and then called in some sympathetic man like Mr. Mawson, who could give instructions as to the planting and that kind of thing, of which no architect could possibly have a thorough knowledge—he meant a nurseryman's knowledge.

Mr. Leonard Stokes said he was not an expert in gardening, but he would like to say a word on the point of aspect being everything. They had to consider the site, and if they had a site which, if the living rooms faced south, would mean looking into a bank, he thought the client would not thank them. Their client might have a pretty view facing north which he wished to face. He had had a client of that sort to deal with, and had been obliged to put the drawing-room facing north. With regard to the plan shown by Mr. Mawson where the entertaining rooms faced the west, he would point out that in this case the sea was to the west, and the client probably insisted on having the living rooms facing the sea—very naturally, he thought, although not very ideal from the aspect point of view. But the architect had no power. If the client insisted on having the living rooms facing the west it was just possible, although it was not exactly conceivable, that there may have been some reasons for putting the kitchens facing south. It was not ideal, but it was very difficult to lay down hard-and-fast rules that the living rooms must face the south, and the kitchens must face the north, and those sort of rules. They were very nice, but when they came to meet special cases they had to treat them in a special way. He might as well confess the whole thing. He had a drawing-room at the north and a kitchen at the south, but he had tried to prevent the sun coming into the kitchen and to get the sun into the drawing-room. It was only by using a little ingenuity in the treatment of special cases that they could get over special difficulties. If they tried to follow the law set out in text-books they were very apt to find themselves up a tree. They must allow the client to have his pretty view or they would probably not get the job. Although he argued in principle that they must get the sun into the living rooms, yet they must not necessarily condemn the architect who put the drawing-room facing the sea and the kitchen in the south. Clients were obstinate people, and sometimes architects were driven to do things they objected to.

Mr. E. W. Hudson said he would like to know how Mr. Stokes had got the sun in the north aspect. If he could only do that in some of the slums in London it would be a fortune to him and a great many others. He had listened with great pleasure to the paper and supported the vote of thanks. He supposed in past centuries when those palatial residences were put up, such as Waverley Abbey, it was the custom to poise the building on a very large basement, by which the reception rooms got a view over a small hillock. Mr. Mawson had given them both poetry and practice, and although his example had been confined mostly, he took it from modern buildings it would be most interesting if they could at some time have some views of the old gardens. Mr. Mawson had mentioned one—Haddon Hall, but there were others they could think of, such as Hampton Court and Waverley Abbey, where they found the orchard placed quite close to the kitchen-garden. He thought those old gentlemen knew pretty well what were the best arrangements for obtaining the fruits of the earth and every necessity for a goodly life.

Mr. H. I. Triggs remarked that in studying old gardens he had found very often that the time of the house was quite neglected in the garden. With regard to the plan shown by Mr. Mawson, he thought the lecturer's point was that if the house had been put a little further back it would have enabled a very good garden to have been got in the south side which they omitted to put.

The motion having been carried,

Mr. Mawson in reply said that Mr. Milner evidently overlooked one passage which he read very carefully. When he spoke of working towards the house and from the house he did not mean it in the sense that they should start laying out the garden in the park and finish in the house, or start building their terraces before they laid out the others. It had nothing whatever to do with that question. What he tried to show was that in designing they should work from the larger and finish with the detail. Coming to Mr. Wilson's remarks, he was sorry he could not quite agree with him that architects paid enough attention to the aspect. He happened to live in the Lake District, and he had given one example on the south coast which several speakers had referred to, for a particular reason. He pointed out to them that the views were to the west, but everything there was given up for the sake of the view. Now, he maintained that it would have been quite possible to have had peeps and glimpses of the sea and still retain the whole of the aspect, which was so desirable in that case. In his own district nearly the whole of their views for the Windermere side were from the west or to the north. People building said they must have these views, and that they did not care anything about the aspect. Where it was the intention to occupy the house for only three months of the year, June, July, and August, he thought that was a quite right and proper view to take, but when they had to live in the house the whole of the twelve months, he thought it was a wrong one. In no case had he referred to the architect's name, and in all the cases he had referred to, the matter was fixed by the client and not by the architect, but if he had to advise the client, he should say that, irrespective of all other considerations, aspect was the most important. They could always get the view when they wanted it, but if they built away from the aspect it was very difficult to obtain it. With regard to the question which had been put to him, he had purposely kept clear of details. He simply had tried to take them to what he considered the source of inspiration was, that their plans and conceptions of what should be, should be the outcome of site and local conditions and local materials with which they had to deal. He hoped he made that point quite clear. He would try to show by a view of his own house and of a little house designed by Mr. Gibson for his brother, exactly what he thought about the one question Mr. Wilson put to him, viz., what would be the right and proper thing to do if they had an exceptionally fine view from their house. [Views of the houses were given.] He thought it infinitely better to see a fine natural landscape over a naturally-built terrace wall, than to see the same over a lot of undulations. He was particularly interested with what Mr. Lorimer had to say about gardens, and he had done so many charming gardens that anything from him was of particular value. Now Mr. Lorimer had done exactly what he said he hoped some of them would do—that was tried to design the gardens round the house. When they came to consider that only about one out of twenty gardens laid out in the country had had any professional skill extended to it, surely there was plenty for everyone of them to do. Referring to Mr. Stokes he might say he had tried to avoid fixing principles. Of course, he had to give examples, for it was absolutely necessary to emphasise the point he wished to make, but what he wanted them to do was to go to the spot and simply do what the local circumstances suggested they should do. That to his mind was the right way to begin to plan the garden.

The Next Meeting.

The President announced that the next meeting would be held on June 9, to receive the report of the scrutineers as to the results of the annual election; to elect candidates for membership, and to consider some alterations in the Institute paper, "Suggestions for the Conduct of Architectural Competitions."

CEMENT IN RUSSIA.—The aggregate producing capacity of the three Russian cement factories at Novorossisk is, according to a consular report just to hand, 296,000 tons per annum. The output last year, however, was only 129,000 tons, of which 65,000 tons were shipped to the Far East.

ARCHITECTURAL ASSOCIATION SUMMER VISITS:

CHRIST'S HOSPITAL, HORSHAM.

THE interest which always attaches to any of Mr. Aston Webb's work, combined with a real summer day at last, had the effect of inducing a large number of members to face the delays of the London, Brighton, and South Coast Railway, and more than 100 assembled at Victoria on Saturday at 1.30. Unfortunately, it was nearly 4 o'clock before West Horsham was reached, and as the time of the return train was 5.55, the visit resolved itself into a somewhat bewildering rush round the magnificently-arranged new school-buildings. The Association was fortunate in that both Mr. Webb and Mr. Bell were able to be present, and those who were able to keep up with Mr. Webb heard a great deal that was both interesting and instructive.

After a run through the laundry buildings, members collected in the great hall where Mr. Webb gave a terse description of the aims and requirements of the school, illustrated by the original competition block plan and a smaller scale plan showing how slightly the actual buildings have varied from the architects' first conception. The old idea of closed-in quadrangles was, Mr. Webb explained, entirely discarded in favour of a scheme which would admit of the utmost advantage being taken of light and air, and thus the eight boarding-houses are strung out in a flat segment of a circle on either side of the great quadrangular block of school buildings proper, the base of which is formed by the great dining-hall and head-master's house, with the kitchen and offices behind, and the sides and end by the science school, school hall, classrooms, and chapel.

Each boarding house block contains two houses of fifty boys each, with the exception of the preparatory block which contains 120. The total number of boys being 820.

What may be termed the salient feature of the scheme is that the feeding arrangements are entirely centralised, and thus masters, boys, and servants all come three times a day to a central point for meals—masters and boys to the great hall and servants to other rooms adjacent to the kitchen. This decision on the part of the school authorities has been most ingeniously carried out by the architects, and the complete separation of boys and servants has been contrived first by the admirable plan of the dual system of the boarding houses, and secondly, by a subway which connects the whole range of buildings and which is used exclusively by servants, who thus never have occasion to mix with the boys at all.

That this food centralisation has largely determined the plan is obvious, and it will be very interesting to see if it will have the success it deserves. The feeding of 900 people at the same time is no small undertaking, but the economy and convenience effected must certainly be great, and the quantity and quality of food being alike for all will have many advantages over our antiquated Public School system of separate, and in many cases scattered, houses, where the management may or may not be good. There are, too, no "sick rooms," but directly a boy is unwell from any cause he is at once isolated, and sent to the infirmary—a method which might well be more generally copied.

The drainage is disposed of on the septic tank system, the installation being one of the best and most perfect hitherto carried out. The effluent is sent through land sloping away from the tanks, and after being thus additionally purified finds its way into the brook below the declivity of the ground.

Some of the old buildings of the Aylesbury Dairy Co. which were on the land have been retained and utilised, and more especially two old cow byres of great extent have been adapted for swimming-bath and gymnasium respectively, the old centre posts having been removed and the tie-beams strengthened. The gymnasium is not yet installed, but the two swimming baths, 88 ft. by 25 ft. for the older boys, and 33 ft. by 25 ft. for the younger ones, are complete.

A good and plentiful supply of water has been obtained from a well some 480 ft. deep, the water being pumped to a reservoir on the top of Sharpenhurst Hill, where a fortnight's supply of 300,000 gallons can be stored. The water comes thence by gravitation to tanks containing two days' supply.

Lighting is by electricity, three dynamos being provided.

The heating is by steam, all the mains being carried along the subway, but each block is separated, and thus under easy and independent control.

There are three boilers, two of which will always be in use. Messrs. Clements Jeakes have carried out the heating, which is, Mr. Webb said, entirely satisfactory.

Mr. Webb generously declared that many brains have been at work to produce the complete buildings, and said that each and all had given ready help and assistance, and especially Messrs. Longley, of Crawley, the builders; Mr. Proudfoot, the clerk of works; Mr. Tingley, the foreman; Messrs. Masey, who carried out the electric lighting; Professor Robinson, the water; and Messrs. Hellyer, who were responsible for all the plumbing work.

The great hall is a fine room, and the old associations of the school have been well kept up by the oil-paintings, glass coat of arms, and the pulpit, all of which have been carefully removed to Horsham. The roof is of Oregon pine, the walls being panelled up to a certain height, with plain red brick above. The in-and-out plan of the side walls has been so treated as to give the windows internally a great depth of reveal, which very much adds to the appearance of solidity and mass in the interior. From the great hall we hurried rapidly through the kitchen to the art school, passing the old Grecian gateway with its appropriate motto, "Fear God, Honour the King," which has been well worked in with the new work of the cloisters. The art school is a delightful room with a barrel-vaulted plaster ceiling and well lighted from the north. The science school fittings were not yet fixed, so a cursory glance had to suffice, and but a few moments more could be spared to the library with its open timber roof, Holbein painting, and a fine mantelpiece, the latter being the gift of the architects to the school. A classroom was next inspected, and then the old brick entrance from Newgate-street, which has been cut out in sections and refixed at the south end of the school hall, at the end of the great quad with the classroom buildings on either side. This hall will seat 1,000 people. The walls have a panelled dado with the plain brick above, and a fine Oregon pine open-timber roof. The old organ has been repaired and refixed here. A gallery at the north end is connected by means of bridges with the first floor of the corridors leading to the class-rooms, and ample provision has been made on the ground floor for the rapid clearance of boys from the hall. At the north end the old statues of James I. and Charles II. have been placed.

The chapel, on the west side of the quad, was still in a very unfinished state, but will, when completed, have oak panelling and an open timber roof. The fine stone reredos, carved by Mr. Frith, and the large window above, designed by Mr. Spence, are the gifts of old Blues, as also is the organ, which will be a divided one, placed on either side of the altar.

Perhaps as regards planning the boarding houses formed the most interesting feature of the afternoon. For many reasons a boys' boarding house is not an easy subject, and certainly those at Horsham are worth study. No single point seems to have been overlooked, and they are models of economical and hygienic planning, and if the traditional Spartan element of the school is somewhat in evidence, so much the better for the rising generation.

By this time it was after 5 o'clock, and what little time remained was occupied by photographing the group of members and despatching the most excellent and very welcome tea so kindly provided by Mr. and Mrs. Webb.

After a hearty vote of thanks had been proposed by the President, Mr. Seth-Smith, a hasty dash was made for the return train.

The whole time spent at the school was so inadequate for careful study that it is a little hard to give more than impressions.

Want of funds have clearly had the effect of eliminating all unnecessary ornament, but in essentials absolutely nothing seems wanting, and when the staring effect which all new work seems to have has worn off, and the hard contrasts of the Cranleigh bricks and Monks Park stone have toned down, the whole range of buildings will form a most harmonious and characteristic school group.

The question of secondary education is a large subject, but there can be little doubt that, at least as far as health and wholesome external impressions are concerned, the new Christ's Hospital has great advantages over most of our public schools, and the fearless departure from ancient and time-worn custom should do something towards a more general scientific treatment of twentieth-century school life.

The following is a list, furnished by the architects, of those who assisted in the carrying out of the buildings:—

The quantities were prepared and estimates arranged by Messrs. Hunt & Steward.

The preparation of site, formation of roads and plantations, &c., were under the superintendence of Mr. H. E. Milner.

The electric light installation and steam plant were designed by Messrs. Massey & Allpress.

The deep well pumping machinery, reservoir and fire mains were designed by Professor Robinson.

The general contractors for the whole buildings were Messrs. Longley & Co., of Crawley, Sussex.

The sub-contractors were:—For the hot-water heating, Clements, Jeakes, & Co.; laundry fittings, Summerscales & Co.; science school fittings, the Bennett Furnishing Co.; chapel seating, Hammer & Co.; internal plumbing, Dent & Hellyer; electric light wiring, Strode & Co.; electric light fittings, Strode & Co., and Elsley; service lifts, W. G. Johnson; grates and mantels, Shuffrey & Co.; sundry iron-work, Yates, Haywood, & Co.; glazing, G. Farmiloe & Co.; casements generally, Wenham & Waters.

The sculpture has been mainly the work of Mr. W. S. Frith, certain other portions having been carried out by Messrs. Daymond & Son and by Messrs. Fagan & Bell; and the stained glass has been entrusted to Mr. Spence, the new organ to Mr. Kirkland, and the inlaid altar table to Messrs. Norman & Burt. Mr. Proudfoot has been the clerk of works and Mr. Tingley the contractors' general foreman from the commencement of the works.

A more lengthened and leisurely visit on another day enables us to confirm the general impression obtained in the course of the unfortunately hurried visit of the Architectural Association. It would have been quite worth while for the Association to have departed from its usual hours and devoted a whole day to the visit by starting in the morning instead of the afternoon; perhaps those who arrange the excursions were not fully aware what an extended range of buildings they had to see; but there is so much for young architects to learn from a building of this kind carried out in a practical manner. We may congratulate the architects on the successful completion of one of the most important groups of school buildings ever erected in this country, and one which we think justifies the remark that we made on the first sight of the competition plan, that it started a new era in the planning of large schools.

THE HOME ARTS AND INDUSTRIES EXHIBITION.

THE eighteenth annual exhibition of the Home Arts and Industries Association is now being held in the gallery of the Royal Albert Hall. The exhibition is always an interesting one, and in some respects it shows more successful work than previously. The Compton School exhibits terra-cotta of very exceptional merit—sundials to be built into the wall; bowls, in the form of window boxes, for containing plants, daintily modelled with figures and conventional foliage; a huge terra-cotta vase, octagonal in form, each side made in a separate piece, the whole bound together with iron bands, which form a feature of the design. The most striking exhibit of this class and, indeed, of the whole exhibition is a group of four large panels in gesso, segmental in section, that eventually will adorn apsidal walls of the memorial chapel at Compton. Like the rest of the chapel, they are from the designs of Mrs. G. F. Watts, who is also responsible for the colouring; each panel contains three figures, life size, enwrapped by wings of wondrous colour; the modelling is the lowest relief, with very sharp contours, and the decoration is imaginative and allegorical to the last degree. Two of the panels are the work of students of the Godalming School of Art and two are by the Compton village carpenter. The Haslemere industries maintain their reputation by most interesting and well-conceived work; the woollen rugs from the designs of Mr. Godfrey Blount are very attractive, and should be in great demand; every one has experienced the difficulty of obtaining suitable rugs at a reasonable price. A weaver is to be seen in the gallery at work at the loom. A hanging in linen appliqué of two figures bearing an enormous bunch of grapes, and surrounded and enclosed by the foliage of the vine, is fine in colour and admirable in execution. While speaking of this class of work, we must mention the tapestry and silk damask made by the cripple girls at Bushey. These girls are unable to earn their living in other ways, and they are being taught to be more than useful; they are executing work so excellent in colour, design, and workmanship, that it must rank high in this beautiful art, and we are glad to learn it fetches appropriate prices. Most of the exhibits are wall hangings and mats.

Amongst the metal work a beaten copper chimney-breast decoration, from the designs of Captain H. Montgomery, is distinguished by the vigour and simplicity of its design and execution; a fine plate by the same artist is also worthy of notice. Good beaten metal-work comes also from Fickleford and Keswick. There is no furniture to be seen of any importance; in woodwork, the best things that are done are in inlay; a row of baby girls inlaid on the front of a teak chest is excellent, this comes from Escrick. Very clever work in this section comes from Bolton-on-Swale, though the cabinets, &c., which it adorns are inferior in design and workmanship.

Space will not allow us to mention the many other sections and exhibits of interest; there are very many that are of no interest whatever, but we have preferred to call attention to the real excellencies of the work done by the Association than to find fault with mistaken endeavours. We heartily sympathise with the objects of the movement; its influence cannot be too widely felt; to encourage, and, where necessary, direct industries that might otherwise become swamped by the competition of cheap and machine-manufactured goods of the same class means a livelihood to some who would otherwise be obliged to risk unhealthy work in cities, and gives pleasure and satisfaction to a large public.

EXHIBITION OF AUSTRIAN DECORATIVE ART.

THE exhibition of Austrian art now open at the Prince's Skating Club, Knightsbridge, is to be welcomed, because it creates a precedent which it is to be hoped may be followed up from time to time by similar exhibitions from other countries.

Decorative art attracts a good deal of attention, and this exhibition of Austrian work is likely to be popular and should be visited by all persons interested in handicrafts. Not only does the exchange of ideas do good service, but the strengthening of convictions by which work is carried through is best achieved by seeing as many sides as possible of an art while practising it. It is difficult, of course, to get rid of insular prejudice in judging of the handicrafts of other countries; the familiar styles and methods of making useful things which we have been accustomed to from childhood cling to the mind. Perhaps in furniture design this prejudice is more permissible than in many other national characteristics. The English furniture makers of the best periods understood their business thoroughly, and their work is still the criterion of excellence of design and workmanship; immense prices are being paid for examples at the present day, not we believe because it is a fashionable fad to have old furniture, but because a very large section of the public find it impossible to buy new furniture of distinction or taste. During the Victorian era the tradition amongst furniture makers was nearly wiped out; happily there is a prospect of that tradition assuming its proper place, and with very good reason. The masters of English furniture making of the sixteenth, seventeenth, and eighteenth centuries understood very much better than we do now—and we are inclined to think better than the continental masters did—the permanent value of restraint in design. Such a thing as novelty was not sought after. There are not many ways of doing a thing well, and those who clung closest to the best traditions of their ancestors were the men who created the succeeding styles which met the needs of new generations.

We believe that much of the work at the Austrian Exhibition is an honest endeavour to meet modern conditions of trade and public demand. There is very much of the "art Nouveau" style in evidence, and the best exhibits show an uncertainty of design and purpose that is not convincing. The exhibit that stands first in our opinion is the side of a room in Austrian oak, the central feature of which is a fine

chimney breast treated with an Ionic order and a broken pediment. This is the work of Messrs. Höfler, from the design of Mr. J. J. Joass. Most of Messrs. Höfler's work is in solid Austrian oak treated on sensible and quiet lines. A bedroom is shown by Mr. Anton Pospiochil, the furniture being in oak veneered with Austrian ash polished. The effect is very clean and attractive, although the design is unnoticeable either for good or bad qualities. The best complete room is a drawing-room by Sigmund Járay, in the Empire style as it existed in Austria at the end of the eighteenth century. The room is furnished with taste, and the furniture in some brown wood, ebony turnings and gilt ornaments, is very handsome. A smoking-room for a hunting lodge of rather substantial design, by Julius and Josef Herrmann, is of a distinctive character; there is a feeling of very big game about it, and it is not unsuitable for its purpose. The sculpture and modelled work does not show any very serious endeavour beyond that of attempting to please at first sight, much of it being very florid and decadent in style. The Cloisonné work is interesting and much more beautiful, the lustres being particularly fine. Ironwork is represented by Julius Endlweber, by excellent workmanship treated in a somewhat too naturalistic manner.

COMPETITIONS.

WORKMEN'S HOUSES, COLERAINE.—In the competition for the erection of twenty-five workmen's houses at Coleraine the first premium has been awarded to Mr. Maxwell Given, architect, Coleraine, and the second to Mr. Jas. A. McCormick, of the same town.

LEIGH INFIRMARY.—Mr. Alexander Graham, F.R.I.B.A., the assessor appointed by the President of the Royal Institute of British Architects to adjudicate on the plans submitted in competition for an infirmary at Leigh, has made his award as follows: No. 1 in order of merit—Design No. 51, Scheme 2 (Mr. J. C. Prestwich, Leigh, Lancashire); No. 2, Design No. 27 (Messrs. Harry W. Pye and Roger F. Bacon, 16, John-street, Bedford-row, London); No. 3, Design No. 3 (Messrs. F. A. Buttery and T. B. Birds, Exchange-buildings, Queen-street, Morley). Fifty-two sets of drawings were submitted.

THE SURVEYORS' INSTITUTION:

ANNUAL MEETING.

THE annual general meeting of the Surveyors' Institution was held on Monday at Great George-street, Westminster, when the chair was occupied by Sir J. F. L. Rolleston, M.P., the retiring President. The attendance included Messrs. A. Vernon, A. R. Stenning, G. Langridge, W. E. Horne, W. E. Woolley, A. Savill, Norman Garrard, L. R. Vigers, T. Blashill, the Hon. E. G. Strutt, and J. W. Penfold.

The members of the Council were re-elected, with the addition of Mr. J. D. G. Drew.

The thirty-fourth annual report of the Council showed that the membership of the Institution had maintained its annual rate of increase. The total membership was now 3,312, as against 3,200 last year. The loss in the class of Fellows by death or resignation had been forty-eight, against which there had been forty-seven transfers from the class of Professional Associates and nine elections to the class—a net gain of eight. The class of Professional Associates had been increased by 155 elections, but against this must be set forty-seven transfers to the Fellowship and thirty-six deductions on account of death or cessor of membership. During the year 147 new students were enrolled, while sixty-three ceased to be students by effluxion of time, and fifty-six were elected to the Professional Associateship. The total of 369 candidates who sat for the Professional examination included thirty-nine who in a previous year failed to satisfy the examiners in their "typical subject." Of these re-examined candidates, thirty-one presented themselves in the "Valuation" subdivision, of whom twenty-seven passed. Of the eight who came up in the "Building" subdivision, four passed. The number of candidates who this year obtained the necessary pass marks in the whole examination, but were "referred back" in their studies in the "typical" subject, was in the "Valuation" subdivision fourteen, and in the "Building" subdivision eight. The report passed on to the question of Scottish examinations. It was satisfactory to note that the examination system was steadily taking root in Scotland—a result largely due to the strenuous exertions of Mr. W. Fraser, the local hon. secretary, and the Chairman and members of the Scottish Committee. Five candidates presented themselves—three for the Associateship and two for the Fellowship examination. Of the former, all passed; of the latter, one passed and one failed. There were seven candidates this year for the examinations in Dublin—four for the Associateship and three for the Fellowship. All the Fellowship candidates and three of the Associateship candidates passed their examination.

The "Institution" prize of the value of 15 guineas was awarded to Edmond Meacher, a "Land Agency" candidate in Division II., who headed the list with 738 marks out of a possible 1,000. The "Special" prize of the value of 10 guineas was gained by Bertram Alfred Boyton, a candidate in the "Valuation" subdivision, who obtained 722 out of a possible 1,000 marks. The "Penfold" gold medal was won by Martin Lowish Wheldon, a "Land Agency" candidate in Division IV., who headed the list with 826 out of 1,000 marks, to whom was also awarded the "Crawter" prize for the best work on the subject of valuation. The "Penfold" silver medal, as well as the "Driver" prize of the value of 15*l.*, was awarded to John Turner Clough Hazledine, who in the "Land Agency" sub-division obtained the highest proportionate number of marks among both classes of candidates for the Professional Associateship. The "Beadel" prize, offered this year for the first time, was awarded in connexion with the subject "Agriculture" to Arthur Ward Ashten. The "Preliminary" prize, awarded to the candidate passing at the head of the list in the Studentship examination, was won by Alfred Armstrong Hart, who obtained 454 marks out of a possible 500. The Daniel Watney prize of 10*l.* was awarded in connexion with the Special Certificate examination in Forestry to Thomas Hood (Fellow), of Halstead.

Dealing with the subject of the charter and by-laws, the report contained the following:—

"In November last the Council received a memorial, signed by a large number of members, urging the desirability of introducing some more distinctive title than the letters 'F.S.I.' authorised by the charter, and also pressing upon their attention the advisability of seeking further disciplinary powers for the purpose of checking certain irregularities tending to bring the profession into discredit. The Council were not altogether unprepared to move in the direction suggested, but their contemplated action has been accelerated by the representations referred to, emanating spontaneously from the members themselves. These proposals, having been put into proper form and circulated among the members, were submitted to a general meeting held on Monday, April 14, and approved. A second general meeting for confirming the resolutions was held on Monday, April 28, but in deference to a suggestion that there was a want of complete unanimity among the members as to the adoption of the title 'Chartered Surveyor,' the Council determined to take steps for ascertaining the opinion of the members generally before deciding whether this particular resolution should be submitted for formal confirmation. The other resolutions, dealing with matters of professional discipline, were confirmed by the meeting, and will be forwarded for approval to his Majesty's Privy Council as soon as a decision has been come to with reference to the resolutions held in temporary abeyance."

Satisfaction was expressed that the Inland Revenue authorities had abandoned their attempt to exact legacy duty on the fees of surveyors authorised by will to act in connexion with the administration of the estates of deceased persons, and the Council asked members of the Institution to note that in future they would be relieved from any such liability.

The Council added that considerable additions to the library had been made by the purchase of a number of works, many of which were acquired at the suggestion of members.

The library had further received a very valuable addition in the form of a bequest under the will of the late Mr. Arthur Cates, who directed that his large collection of books should be distributed between the professional societies with which he was connected. Many of the volumes which fell to the share of the Institution are of great value, and some of them of extreme rarity. The library was open during the session on 111 evenings, from October 1, 1901, to March 31, 1902. The total number of attendances was 157, making an average of 1·4 per night, as compared with 2·5 per night in the previous session. There were twenty-eight evenings on which no reader presented himself, thirty-eight on which one attended, twenty-four when two attended, and sixteen on which three attended. The total number of individual members using the library during these evenings was sixty-four (as compared with seventy-two last session), of whom forty-two attended once only. In view of these results, the Council are considering whether the arrangement should be continued.

The surplus income which the Council have secured by careful administration of the finances has enabled them to do something to further objects of a more or less public character identified with the interests of surveyors. Among these may be mentioned an attempt to secure an amendment of the law as to easements of light by the introduction into Parliament during the present Session of a Bill prepared, in collaboration, by a Joint Committee of the Institution and the Royal Institute of British Architects. The main object of the Bill is to do away with, or greatly restrict, the powers of dominant owners under the present law to acquire rights over servient tenements, which amount in some cases to a confiscation of valuable interests, and which in crowded districts may in future seriously hamper owners of property in the development of their estates. With the same object in view the Council have undertaken to make a specific contribution to the costs of carrying an appeal to the House of Lords in the case of Colls *v.* The Home and Colonial Stores, Ltd. This case is a typical instance of the hardship under which the servient owner at present labours, and which, unless modified by the highest Court of Appeal, is likely to be fruitful of injury to property in all parts of the kingdom. Another matter in which the Council have taken action is the question of the legality of agreements, under hand only, when drawn up by surveyors and land agents, in connexion with short tenancies.

In moving the adoption of the report, Mr. A. King observed that it brought before the members the strength and importance of the Institution, which, he trusted, would continue to gain ground. He urged all members to do what they could to increase its efficiency.

Mr. A. Gordon seconded the motion, which was carried.

On the motion of Mr. Hudson, seconded by Mr. R. Parry, a vote of thanks was accorded to the auditors, Messrs. A. C. Newmarch and C. B. Hall, for their preparation of the accounts which had met with so much satisfaction at the hands of the members of the Institution.

Mr. Harston, in moving a vote of thanks to the President of the Council, the Vice-President, and members, eulogised the services of Sir J. Rolleston, who, he said, had acquitted himself admirably in the conduct of the affairs of the Institution, bringing to bear upon the work his special knowledge as a member of Parliament. They had gone through a year of exceptional importance, and their interests had been thoroughly well looked after by Sir J. Rolleston and his colleagues on the Council.

Mr. H. T. Scoble seconded the motion, which was carried by acclamation.

Responding, Sir J. Rolleston assured the meeting that the labours of the Council during the year had not been small, and that the most careful consideration had been given to all matters affecting the interests of the Institution. It had been a great pleasure to him to occupy the honourable position of President, and although he was about to give way to a successor, he would not cease to take an active interest in the work of the Institution.

Mr. Vernon (vice-president) also replied.

Votes of thanks were also accorded to the hon. secretary (Mr. Penford) and the secretary (Mr. Rogers), who acknowledged the compliment.

Mr. Howard Chatfeild Clark having proposed a vote of thanks to the retiring President (Sir J. Rolleston), that gentleman proceeded to invest his successor, Mr. A. Vernon, with the chain of office, remarking, in doing so, that he had brought great ability to bear upon their discussions, and he congratulated the Institution

in securing his services as President during the next twelve months.

Mr. Vernon, in taking the chair, was loudly cheered. The Institution, he observed, had steadily risen in power and position, and, to some extent, in numbers; but they must always remember that a society, like an empire, was not only to be made, but maintained. He counselled them to pull together for the common good of the Institution, for which he predicted a magnificent future. He would do his best during his year of office, and he felt sure he would have the energetic aid of the Council.

Before the proceedings terminated, the retiring President handed the prizes to the successful candidates in connexion with the recent preliminary and professional examinations.

Illustrations.

THE CENTRAL HALL, ST. PAUL'S SCHOOL FOR GIRLS, HAMMERSMITH.

THIS drawing illustrates the Central Hall, as it will be when completed, of the new school for girls, which is being built for the governors of St. Paul's School at Brook Green, Hammersmith.

The hall is 80 ft. long by 45 ft. wide, and 40 ft. high. Class rooms open from the hall on each side on the ground floor, and also from a gallery on the first floor. The wood screens dividing them from the hall will be glazed.

The roof is constructed with steel principals and purlins, with steel stanchions resting on brick piers in the basement. The stanchions are cased in brickwork. The ceiling will be formed of timber secured to the principals and purlins, and plastered, and will be painted as indicated in the illustration. The room will be panelled, and an organ will be built at the end of it.

Mr. Gerald C. Horsley is the architect of the school, and the contractors are Messrs. Holloway Bros., of Victoria Wharf, Westminster. The constructional steel work has been supplied and fixed by Messrs. Homan & Rodgers. The drawing is exhibited at the Royal Academy.

CROSSES FROM ITALIAN MUSEUMS.

THESE two crosses are very beautiful examples of their respective periods. Nos. 1 and 2 are the front and reverse side of a Byzantine cross in the Brescia Museum. The reverse shows a crucifixion on a chased and modelled plaque which is a comparatively modern restoration, and out of harmony with the archaic splendour of the original. No. 3 shows an enamelled miniature from the lower part of the front about three-quarter full size. The whole cross is studded with choice cameos, enamels, and precious stones.

Nos. 4 and 5 is a cross in Cremona Cathedral standing if, we remember right, about 6 ft. or 7 ft. high. The figures on either side of the crucifixion are Byzantine, the upper part of the cross from the stalk upwards is thirteenth-century work of great beauty, delicacy, and skill. The base is modern, a fine piece of work of its kind. The enlarged view shows the back of the thirteenth-century portion.

HOUSE AT STANSTEAD, CATERHAM, SURREY.

THIS house, now near completion, is built of brick, with local stone plinth, and red tile roof.

The ground-floor ceilings, &c., are treated in modelled plaster, by Mr. Geo. Baukart.

The builders of the house and stables are Messrs. Walter Holt & Sons, of Croydon, and the architect is Mr. E. Guy Dawber, of London.

NEW CHURCH, LONGSDON, LEEK, STAFFORDSHIRE.

THIS church is to be erected at Longsdon, a village near Leek in Staffordshire. It is to be built of local stone, with a red tile roof.

The architect is Mr. Gerald C. Horsley. The drawing is exhibited at the Royal Academy.

BATTERSEA WORKING-CLASS HOUSES COMPETITION.

DESIGN No. 4 provides for three self-contained tenements containing living-room, two bedrooms, scullery, &c., on each floor, access being gained to each tenant through a common porch.

A separate entrance is provided for the ground-floor tenant, and an entrance at the foot of the stair for the first and second-floor tenants; as well as this an inner entrance-door is also provided in each case. By so doing the staircase and passage is cut off from the public thoroughfare, insuring a cleaner and more comfortable dwelling.

It is intended that a combined dresser and food cupboard (ventilated through the external wall) should be fitted in the living-room and in the scullery. All the necessary fittings are as previously described.

All the floors and partitions will be constructed of fireproof materials. Externally the walls are intended to be faced with stock or red bricks, the window-frames painted white, and the roof covered with green slates; in this case a mansard roof being used to gain a better proportion than could have been obtained by roofing it from the ceiling line of the top story, while at the same time it reduces the cubic capacity to a slight extent.

The contents of the building, which, of course, includes foundations and chimneys, is 23,437 cubic ft., and the estimated cost comes to 781*l*.

SMITH & WEALD.

ELECTRIC LIGHTING AT ST. PAUL'S CATHEDRAL.

As already mentioned in "Notes," a special demonstration of the new installation of electric lighting at St. Paul's Cathedral was given on Wednesday evening, at 9 p.m., to representatives of the Press, admitted by ticket.

The electric current for the lamps is supplied at a pressure of 200 volts, partly by the City Company and partly by the Charing Cross Company. As the circuits are laid in duplicate throughout the whole building, even in the event of a complete discontinuance of the supply by one company, only every alternate lamp would go out. The two main distributing-boards for the nave standards and dome are placed in a fireproof recess off the staircase in one of the main piers leading to the Whispering Gallery. They were designed by Messrs. W. A. S. Benson & Co., and are of the Central Station type, mounted on heavy slate bases. From these sub-mains are run to various points, the principal pair going to the large distributing-board in the crypt, where the switching arrangements for the chancel are situated.

The problem of designing the wiring was a specially difficult one, as, owing to the great distances, the cables had to be very heavy, a current density of only 250 amperes per square inch being permissible, as otherwise there would have been an excessive drop in the pressure at the far end. The Silvertown Co., who supplied the cables, state that sixteen miles of wires have been used, the copper alone weighing more than 2½ tons. The wires are generally laid in galvanised iron barrel of substantial make, and in a few places simplex tubing has been used. The wiring is for the most part hidden under the crypt floor, and is accessible by means of inspection-boxes placed at frequent intervals. The vertical wires are carried whenever possible in the hollow centres of the main piers, which are very suitable for this purpose. At present there are about 800 lamps wired, but when it is completed, which will be in about another twelve months, there will be 1,250.

The work has been carried out in an admirable manner by Messrs. W. A. S. Benson & Co., of New Bond-street, under the superintendence of Mr. Somers Clarke, the consulting architect to the Cathedral, and Professor Kennedy, the consulting electrical engineer.

The fittings, which were designed by Mr. Clarke and cast by Messrs. Benson, consist of six large pendants of cast and gilded brass in the choir, hanging from the vault, which, in addition to lighting the floor, throw a glow on the mosaics of the vault by means of upturned lights concealed in cups. There are also eight heavy bronze pendants under the dome, and two others in the transepts; four gilt bracket lights upon the chancel screens; and a ten-light fitting in the apse, which also lights the Jesus Chapel. The five tall standards in the nave and two at the west entrance were designed by Mr. Penrose and Mr. Pegram respectively.

In addition to these, the choir desks have been fitted with standards holding concealed lights, and the crypt has been lighted throughout with the handsome old gas fittings in the shape of hanging Roman lamps, which have been adapted light.

The choir aisles, the entrances, the consistory court, the whispering gallery, and several other points in the church have yet to be lighted, or provided with their permanent fittings.

ARCHITECTURAL SOCIETIES.

DEVON AND EXETER ARCHITECTURAL SOCIETY.—The annual meeting of this society was held at Exeter on Saturday last. In the absence in Italy of the President, Mr. H. G. Luff, of Devonport, the chair was occupied by Mr. J. M. Pinn. The annual report and balance-sheet showed a very satisfactory state of affairs. Mr. W. Hitchens was awarded the book prize for measured drawings. Mr. J. M. Pinn, of Exeter, was elected President for the ensuing year, Mr. A. S. Parker, Vice-President, and Messrs. Bridgman, J. Crocker, and L. Tonar new members of the Council. Mr. Harbottle Reed was re-elected Hon. Sec. and Mr. O. Ralling Hon. Treasurer. At the close of the meeting a visit was paid to the Septic Tanks at Bella Isle, where the Deputy Surveyor (Mr. Moulding) and the Sanitary Inspector (Mr. Wreford) conducted the party over the works, and afterwards the new church of St. David's was inspected under the guidance of the Rev. C. J. V. French (the Vicar).

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—A meeting was held on May 21, Dr. W. de Gray Birch, F.S.A., hon. treasurer, in the chair. Dr. Winstone exhibited a fine copy of a sixteenth-century book on agriculture, bound in vellum. It was printed at Cologne in 1573, and is interesting as showing one of the earliest examples of the (so-called) "Roman and Italian" (not italic) types used together. A paper was read by the Rev. H. J. D. Astley, hon. editorial secretary, in the absence of the author, Mr. M. J. Andrew, F.S.A., entitled "Buried Treasure: Some Traditions, Records, and Facts." Tradition without truth is worthless, and verification of ancient tradition and record is as remarkable as it is interesting. Tempted by a tradition, which must have survived from the Bronze Age at least, the missing treasure-chest of Buckton Castle—an earthwork following the natural lines of the summit of that hill near Mossley, was, in 1730, the object of diligent search with pick and shovel. The tradition is, as usual, in rhyme. Although the search then was unsuccessful, yet about a century ago accident disclosed some verification of the legend, for in making the road at the foot of the camp a quantity of gold beads was discovered and examined on the spot by the grandfather of the writer, who was much interested in such antiquities. Two ancient traditions still hang over the old-world town of Ribchester, some nine miles from Preston. One of these is that its great Roman camp was finally overthrown by the Picts or Scots, and burned over the heads of its defenders. Recent excavations have in a measure given support to the story, for masses of charcoal remains—in some cases interspersed with human bones—were met with in all quarters of the camp, and eighteen months ago Mr. Garstang came upon the granary, the whole contents of which appeared to have passed through the ordeal of fire. The other and better-known tradition, viz., "It is written upon a wall in Rome, Ribchester was as rich as any town in Christendom," somewhat taxes our credulity. Nevertheless, it is curious that here should have been found the finest specimen of its kind in Roman bronze workmanship ever discovered either in this or any other country, viz., the so-called helmet now in the British Museum, which, however, is not a helmet, but the head of a statue wearing a helmet. The old rhyming tradition of Ribchester's wealth may have also referred to the vast treasures of Cuerdale discovered only about seven miles from the town. Here, in 1840, the remains of a leaden chest were discovered, containing some 10,000 silver

coins and about 1,000 oz. of silver ingots, Danish treasure, for the Great bulk of them had been issued by the Danish kings of Northumbria. At Nottingham, in 1880, a remarkable discovery of coins was made which is intimately connected with a passage in the continuation of Florence of Worcester's chronicler, recording what seems to be the very incident which explains the loss of the treasure. A peculiar feature of this Nottingham find is that all the coins have been subjected to intense heat, and are blistered and cockled by fire. They were found in the basement of an old building whilst excavating for enlarged cellarage, and mostly belong to the reign of King Stephen. The chronicler, after detailing the sudden attack upon Nottingham by the Earl of Gloucester in 1141, relates that a wealthy townsman was made prisoner, and compelled to give up his money. He conducted the plunderers to his cellar, and whilst they were engaged in breaking open doors and locks he contrived to make his escape, locked them all in, and set fire to his house. It is reported that thirty men in the cellar perished in the flames. The discovery of the "Beanorth hoard," the "Tutbury hoard," and the curious circumstances relating to other "finds" were dealt with in a most interesting manner. The Chairman, the Rev. H. J. D. Astley, Mr. Rayson, and others joined in the discussion which followed the reading of the paper.

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—A large party of the members of this Institution recently paid a visit to the Great Eastern Railway Works at Stratford by the courtesy of the Locomotive Superintendent, Mr. James Holden, M.Inst.C.E. They were shown over the various departments, the special features of interest being indicated to them. In the locomotive machine shop automatic bolt machines and general machinery for dealing with locomotive work. Large planing machines, &c., were in operation in the erecting shop, where locomotives, both new and repaired, were in various stages of construction; in this shop also pneumatic tools were seen tapping and drilling. Pneumatic tools were also at work in the boiler shop, and hydraulic riveters and flanging machines, together with general machinery appertaining to boiler work. The brass foundry contains a pneumatic moulding machine, and in the brass finishing shop above it are special lathes for manufacturing brass details and firebox stays, &c. The party also visited the locomotive department, the Westinghouse brake shop, smith shop, wheel shop, and iron foundry. In the carriage department new main-line composite carriages and suburban carriages were seen in the process of widening, so as to carry two extra passengers per compartment. The saw mills, which contain a large variety of woodworking machines, were also visited. A visit was also made to the running sheds, liquid fuel storage, engine paint shop, and oil gas works.

INSTITUTION OF ELECTRICAL ENGINEERS—The annual Report of the Committee announces the election of twelve new members during the past year, the total number of members (including sixteen students) being now sixty-six. In the course of the Report it is stated that the Committee have communicated with the Department of Agriculture and Technical Instruction for Ireland with reference to the utilisation of water power, asking that the Board should consider the desirability of taking some steps to secure the collection of data as to available water power at different seasons of the year; also of the sites for water power which are not at present utilised.

FIRE TESTS WITH ROOFS.—The question of the fire-resistance of roofing materials having called for considerable attention in connexion with the Barbican fire, the British Fire Prevention Committee conducted on Wednesday the first of a series of tests in which an ordinary slated roof with an ordinary ceiling was tested in comparison with a vulcanite roof with an ordinary ceiling. The tests, which took place under the usual procedure, and which were attended by a large number of architects, engineers, and public officials, were under the direction of Mr. Ellis Marsland, District Surveyor for Camberwell, and extended for one hour, at a temperature commencing with 500 deg. fahr., and reaching about 1,500 fahr. The slate roof collapsed at an early period, whilst the vulcanite roof did not allow the fire to pass through.

The Student's Column.

PART III.—PRIVATE SEWAGE DISPOSAL.

CHAPTER 20.—METHODS OF DISPOSAL.

SEWAGE DISPOSAL, as it relates to private buildings, does not necessarily imply sewage purification. The foul liquids from buildings may be discharged in their crude state into public sewers, or into rivers, lakes, or the sea. Discharge into sewers is not always possible. Rivers and lakes have been used from time immemorial for receiving the discharges from drains, and if the quantity of fresh water is large in proportion to the sewage, and if it is not used for domestic purposes, little harm has resulted. The drainage from manured lands (dressed, perhaps, with night-soil) is, during heavy rains, often fouler than domestic sewage. But in a thickly-populated country like modern England there is serious danger in allowing rivers and lakes to be used indiscriminately as public sewers, and public opinion is steadily rising against the time-honoured practice. In some of the most densely-populated areas the County Councils are rigorously applying their powers to prevent river-pollution, and their example will probably be followed in other districts, until the discharge of crude sewage into our streams is almost entirely stopped. The practice not only creates a nuisance, but may be a source of great danger if the river is used for water supplies; at the present moment there is nothing but a yard of sand between London and a terrible epidemic.

The discharge of crude sewage into stagnant ponds and ditches is more objectionable to the senses than discharge into rivers, and often creates nuisances, with which Local Authorities have power to deal under the Public Health and other Acts.

Discharge into the sea is sometimes a satisfactory method of disposal, but, if it is improperly carried out, may create a nuisance on the foreshore. In many cases it will be more economical to adopt some method of purification rather than carry the drain to a suitable point of discharge.

In connexion with all these methods of disposal into rivers, lakes, &c., it must not be forgotten that, if one person is allowed to drain into them, others may claim the same privilege, until eventually the volume of sewage may exceed the purifying powers of the fresh water, and an offensive and dangerous nuisance may be created.

Another method, closely akin to the foregoing, is that of discharge into cesspools. If the cesspools are watertight, they are really underground tanks in which the sewage is stored for a period and then removed by pumping or other means and applied to gardens or agricultural lands. Important changes in the sewage undoubtedly take place in these tanks, but these are merely a secondary consideration. Cesspools are constructed primarily for convenience, so that the sewage will have to be removed at distant intervals and not continuously, and (in many cases) so that the contents can be used as liquid manure when required. Old cesspools, however, are almost invariably constructed with pervious walls, and if the soil is of a gravelly nature, the sewage may almost entirely escape by percolation. Such cesspools are seldom or never cleaned out, and the unpurified sewage escaping from them often passes to the nearest wells and pollutes the local water supplies. Cesspools of this kind are now universally condemned, and the only kind which we shall consider are those for the storage of sewage without loss by percolation.

Other methods of disposal are designed to purify the sewage, either for the sole sake of purification or for the purpose of utilising it (as a manurial agent) in the process of purification. In the latter class may be placed nearly all the systems of treatment on land; in the former, chemical treatment and bacteriolysis.

The various methods of private sewage-disposal may, therefore, be summarised as follows:—

1. Discharge of crude sewage into sewers, rivers, lakes, the sea, &c.
2. Storage of sewage in watertight cesspools and ultimate application to land.
3. Direct utilisation on land.
4. Direct purification.

The first method will not be further considered. The second, third, and fourth are merely different methods of arriving at the same result, namely, purification, although in the second the necessity of obtaining this result is often ignored. None of the methods is conveniently applicable under all circumstances, and none, therefore, can be regarded as invariably the best.

CHAPTER 21.—CESSPOOLS.

In urban areas, sewage is, as a general rule, discharged into public sewers, by which it is conducted to outfall-works belonging to the Local Authority. As far as the private individual is concerned, his responsibilities with regard to sewage disposal cease when he has made a proper connexion between the drains of his building and the public sewer. Section 23 of the Public Health Act (1875) gives to Local Authorities the power of compelling the owner or occupier of an existing "house" "to make a covered drain or drains emptying into any sewer which the Local Authority are entitled to use and which is not more than 100 ft. from the site of such house." Section 25 gives an Urban Authority similar power with regard to the drainage of new houses. But whether the building is new or old, the owner cannot be compelled to make a connexion with a sewer which is beyond the specified distance of 100 ft. from the site of the building; "if no such means of drainage are within the distance, then the drain shall empty into such covered cesspool, or other place, not being under any house," as the Authority direct.*

In the absence of convenient sewers, cesspools have been freely used for the reception of sewage, and, although many urban authorities have done their utmost, by means of stringent by-laws and regulations, to do away with old cesspools and to prevent new ones being constructed, they are still used in urban as well as rural districts. In some districts—chiefly those with gravel sub-soils—they are much more common than in others. Thus, in Chichester, prior to 1895, all houses were either undrained or drained to cesspools; in 1896, Dr. Bulstrode reported—"everywhere cesspits and cesspools are numerous; in fact, it would seem that the whole of the gravel upon which Chichester is built is riddled with them."

Gravel soils have been so largely preferred for cesspools because, by building the walls with open joints, the contents of the cesspools can escape, and frequent emptying by manual labour is unnecessary. Dr. Bulstrode stated, in his report on the sanitary condition of Chichester just alluded to, "As regards some of the premises which I visited, the dates, or even the fact of the last emptying of the cesspool could not be called to mind." Cesspools and wells were sunk into the gravel, and the underground water, polluted with sewage, was pumped for domestic use. But Chichester does not stand alone. There are thousands of cesspools still in existence throughout the country, from village to metropolis. New drains may be laid and connected to the public sewer, but the old cesspool may remain, until the collapse of the ground or floor above it leads to its being filled up. Many of these old cesspools are constructed under the floors of houses, and others are in such close proximity as to be almost equally dangerous.

No hard-and-fast rule can be laid down as to the distance which ought to intervene between a cesspool and an inhabited building or a well. In the Model By-laws (both urban and rural) the distances are not stated; in a prefatory memorandum to the Rural By-laws it is said that the local "Council should themselves insert the distances" in the by-laws dealing with cesspools, "having regard to the circumstances of their district." The Local Government Board has, however, advised that the minimum distance of a cesspool from an inhabited building should be 50 ft., and from a well or other source of water-supply 60 ft. By "inhabited building" is meant "a dwelling-house or public building, or any building in which any person may be or may be intended to be employed in any manufacture, trade or business." By "well or other source of water-supply" is meant "any well, spring, or stream of water used or likely to be used by man for drinking or domestic purposes, or for manufacturing drinks for the use of man." Although a distance may be stated in the by-law relating to the proximity of cesspools to wells, the local authority has power, if the wording of the Model By-law is adopted, to enforce a greater distance under special cir-

* For the exact words of these clauses, and for the author's remarks thereon, see Chapter 2.

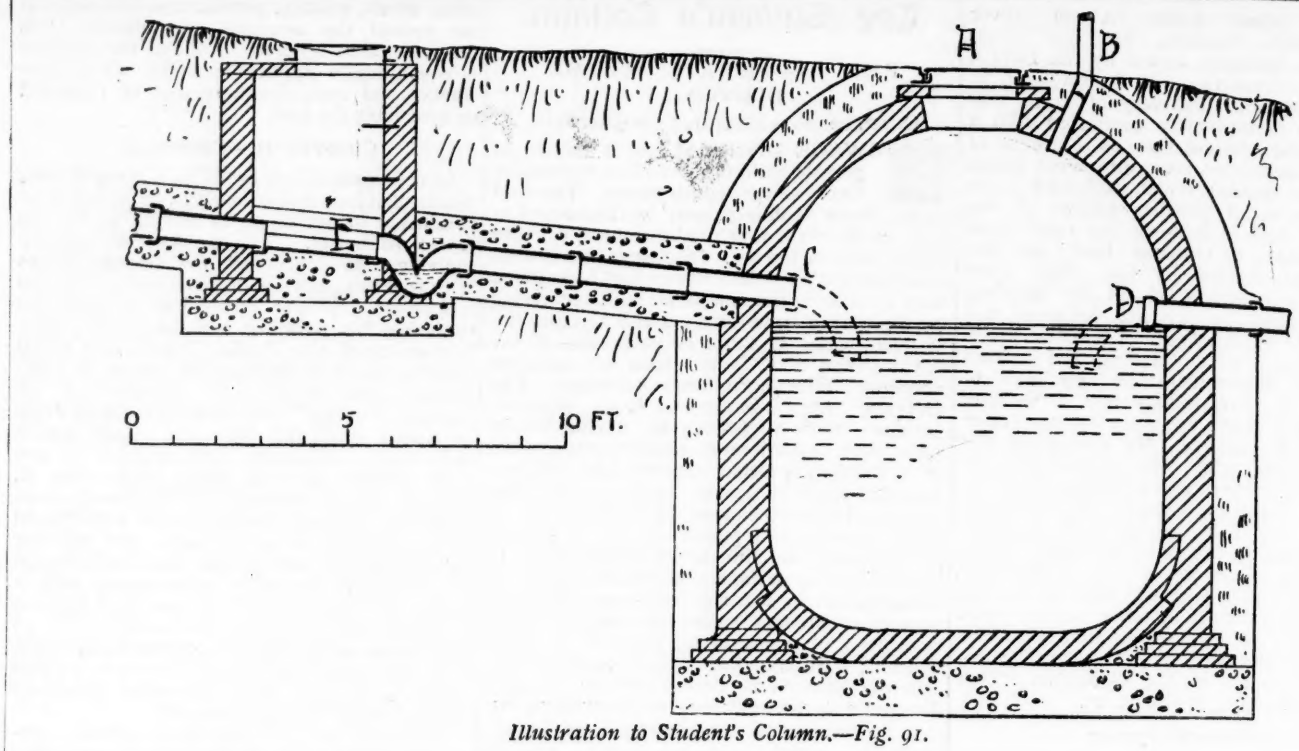


Illustration to Student's Column.—Fig. 91.

cumstances, as the by-law states that a person shall not construct a cesspool within a distance of . . . . feet from any well, &c., "or otherwise in such a position as to render any such water liable to pollution."

The by-laws made by the London County Council under the Public Health (London) Act, 1891, specify a minimum distance of 100 ft. from a cesspool to an inhabited building or to "any well, spring, or stream of water"; there is no qualification as to the use of this water by man, as in the case of the urban and rural by-laws.

The model By-laws (both Urban and Rural) prescribe certain rules which ought to be observed in the design and construction of cesspools. With slight modifications these rules are now enforced in London, and throughout most of the urban districts in the provinces.

In the first place, a cesspool must be constructed "in such a manner and in such a position as to afford ready means of access . . . for the purpose of cleansing such cesspool and of removing the contents thereof," and the position must be such that the contents can be removed without being carried through any dwelling-house, public building, or building in which any person may be employed.

Secondly, the cesspool must not have "any outlet into or means of communication with any sewer;" the London by-laws add "or any overflow outlet."

Thirdly, the cesspool must be constructed in a substantial manner. The Urban Model By-laws specify "good brickwork in cement, properly rendered inside with cement, and with a backing of at least 9 in. of well-puddled clay around and beneath such brickwork." The London By-laws state that the brickwork must be "bedded and grouted in cement," and add that the cesspool "shall be perfectly watertight"; in other respects the requirements are the same as in the Model by-law just quoted. The Rural Model by-law is similar to the Urban, but a backing "of at least 6 in. of good cement concrete" may be substituted for the puddled clay, and other methods of construction may be adopted provided that "suitable material" is used, and that the cesspool is rendered "impervious to liquid." The three sets of by-laws agree in specifying that the cesspool must be "arched or otherwise properly covered over."

Fourthly, every cesspool must be "provided with adequate means of ventilation." These words are common to the three sets of by-laws, but the adequacy or otherwise of any proposed means of ventilation must, it would seem, be determined by the surveyor to the local authority.

A vertical section of a circular cesspool 9 ft. in diameter is shown in fig. 91. The foundation is a bed of cement concrete 15 in. thick, and on this 9-in. brickwork is laid to form the floor. The walls are of brickwork 14 in. thick, and the dome is 9 in. thick. The angles between the floors and walls are rounded. The clay backing, 12 in. thick, is carried up to the top of the dome. The eye of the dome is fitted with an airtight cover A, and ventilation is provided by the cast-iron pipe B, which should be attached to a tree or post so as to discharge the foul air at as high a level as possible. The drain inlet C enters the cesspool above the level of the overflow D, and is intercepted by a trap at E, which may with advantage be placed in a manhole as shown.

A rectangular cesspcol covered with a barrel vault or with stone "landings" will be more economical than that illustrated, and this shape may of course be adopted; the angles ought to be well rounded.

In London and some other urban areas overflows are not allowed, and the contents must be periodically emptied, an operation which can most conveniently be performed by means of Merryweather's pneumatic cesspool-emptier. In the country a pump, usually of the chain type, is often fitted to the cesspool, so that the contents can be extracted and used as liquid manure. Where the configuration of the ground will allow, the overflow may be conveyed in drain-pipes to the surface, and utilised for irrigation, in one of the ways to be hereafter described. When an overflow is provided, bends should be fitted to the inlet and outlet as shown by the dotted lines, so that the scum which forms on the surface will not be disturbed. The cesspool is thus converted into a septic tank. It would probably be an advantage if the inlet-pipe of a cesspool without overflow were carried down inside the cesspool to about half the depth.

Where road-detritus enters the drains, a small chamber may be constructed adjoining the cesspool to retain the sand, as this can be more easily removed from the grit-chamber than from the deeper cesspool.

The size of the cesspool must be governed by local considerations. In some districts they are emptied by the Local Authorities at stated periods—usually every week or fortnight—and the cesspool must be of sufficient size to receive the greatest amount of sewage which can be produced in the intervals. In the country, if the overflow is properly treated on land or by filtration, the size of the cesspool may be reduced; a capacity equal to two days' flow will usually prove sufficient for the organic solids to be broken up by the bacteria in the sewage.

When cesspools are adopted, it is a good plan to exclude as much of the rain-water as possible from the sewage-drains, as smaller cesspools will then suffice. There will also be less risk of back-water in the drains; if the rainfall is admitted, and a heavy storm occurs when the cesspool is nearly full, the drains may be flooded and perhaps damaged.

BOOKS RECEIVED.

THE EIGHTEENTH CENTURY ARCHITECTURE OF BATH. By Mowbray A. Green, F.R.I.B.A. Part I. (Bath: G. Gregory).

SANITARY FITTINGS AND PLUMBING. By G. Lister Sutcliffe, A.R.I.B.A. (D. Fourdrinier; *Builder* Office. 5s.)

ROADS: THEIR CONSTRUCTION AND MAINTENANCE. By Allan Greenwell, A.M.Inst.C.E., F.G.S., and J. V. Elsden, B.Sc. (Lond)., F.G.S. (D. Fourdrinier; *Builder* Office. 5s.)

HISTORY OF SEPULCHRAL CROSS-SLABS. By K. E. Styan. (Bemrose & Sons 7s. 6d.)

THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA. By G. Vivian Poore, M.D. (Longmans, Green, & Co. 5s.)

TRADES WASTE; ITS TREATMENT AND UTILISATION. By W. Naylor. (Charles Griffin & Co. 21s.)

THE SURVEYORS' INSTITUTION

THE country meeting of the Surveyors' Institution began at Cambridge on the 22nd inst. The members were received by the Mayor and other members of the Corporation at the Corn Exchange at ten o'clock, after which the sitting was devoted to the reading and discussion of papers. At 1.15 the Provincial Committees entertained the visiting members at luncheon at the University Arms Hotel, and during the afternoon a party was made up to visit various colleges and other University buildings. Other excursions were made during the visit.

After the reception, the President-elect (Mr. A. Vernon, of High Wycombe) took the chair, and Mr. H. M. Jonas, of Cambridge, read the first paper, which was on "Cambridge." He stated that, although an ancient capital town, Cambridge did not compare in point of size or population with many towns and industrial centres; its characteristics were those of an agricultural town, residential, and above all, educational. Having indicated the position of the town, and alluded to the system of education apart from the University, the paper went on to deal with matters of history connected with the town, dating from Saxon times when it was called Grantanbrycge and was defended by a castle on the north side of the River Cam, constructed as a defence against the Danes, by whom Cambridge was sacked more than once. In the year 1086 there were 400 houses in Cambridge, and in 1901 the number of houses and shops was 8,701, the town having about doubled itself in size during the last fifty years. In the reign of Henry I. Cambridge obtained a royal charter, by which the town was granted to the burgesses at Fee Farm, with the monopoly of the trade of tolls of town and river for a fixed rent of 45*l*. Other charters were granted in subsequent reigns to the time of Charles II. It was not until the thirteenth century that, in the history of Cambridge, the University was first heard of.

The next section of the paper was descriptive of areas, &c., the present area being 3,278 acres. Among other things, the paper stated that the time had now arrived when it was absolutely necessary to extend the boundaries of the borough, and it was proposed to extend them by enclosing portions of the parishes of Chesterton, Cherryhinton, and Grantchester, with the hamlet of Newnham. This alteration of boundary, which must take place within the

next few years, should increase the area of the borough by about 4,300 acres, and the rateable value by 50,000*l.* As a municipal institution, the Corporation of Cambridge was one of the oldest in England, the appointment of mayor dating back to 1207. The present income of the Corporation from rents of town properties amounts to 2,200*l.* a year, and from tolls, &c., to about 2,500*l.* With regard to public health and sanitation, it was stated that in the sixteenth century the accumulation of filth in the streets, the housing in the town of cows, horses, cattle, and swine, and the habit of turning them out into the streets in the morning, resulted in plague and sickness, in 1546. At the present time Cambridge held a high reputation as one of the most healthy towns in England. A new sewerage system on the precipitation and irrigation principle has just been completed at a cost of about 168,000*l.* After speaking of street paving and lighting, the paper went on to say that after the plague in 1564, Dr. Perne, Master of Peterhouse, proposed that a fresh supply of drinking water should be brought into the town from the streams running from the springs at nine wells in the parish of Great Shelford. The work was carried out at the joint expense of the town and University in 1610, under a scheme by Edward Wright of Caius College, who also planned the New River. The present water supply is excellent. With reference to the roads of Cambridge, which had always been famous, there was one peculiarity, viz., that a portion of the Cambridge to London turnpike road, as far as Barkway, was marked out with milestones in 1729, these being the first milestones put up in England since Roman days, the cost being defrayed from a fund left by a Fellow of Trinity Hall for the purpose. The next matter the paper dealt with was street improvements, and after that the writer turned his attention to open spaces and charities.

The latter part of the communication was devoted to matters in connexion with the colleges. The origin of the colleges, it stated, was interesting and much misunderstood, the general impression being that the University was responsible for the existence of the town, but that was not so. The University in the Middle Ages was a corporation of learned men, established for the purpose of teaching. They did not concern themselves with the feeding and lodging of the students; and the only buildings originally required were places for holding meetings, schools, and lecture-rooms. The individual colleges had come in existence principally by private endowment. From a surveyor's point of view the importance of Cambridge Colleges lay in their being large landed proprietors. The total income of the University and Colleges from real estate, exclusive of funds, was returned by the University Commission in 1873 at 246,288*l.*, but at the present it was, owing to agricultural depression, somewhat short of that amount. On the whole the prosperity of the town and surrounding district was in a satisfactory state, and there was a much greater demand not only for houses but for farms in the districts surrounding Cambridge than could easily be satisfied.

Two other papers were also read, one by Mr. J. Rooke Corbett, on "The Economic Theory of Rent," and the other by Mr. S. H. Cowper Coles on "Sporting Rights."

OBITUARY.

M. BENJAMIN-CONSTANT.—This eminent French painter died on Monday last, at the age of fifty-seven; not to the surprise of those who knew him, and were aware of the malady under which he had been suffering for some months, and from which he had himself no expectation of recovering. He was born in Paris in 1845, and after having been recognised at the Ecole des Beaux-Arts as one of the cleverest pupils of Cabanel, he made his début at the Salon in 1869 by a large picture of Hamlet and the King, illustrating Act III. scene 3 of the play. Since this first picture, which attracted great attention, he has exhibited every year, without a break, a series of pictures, often rather sensational in character, always more or less remarkable and which obtained for him many honorary awards—medal of the third class in 1875; medal of the second class in 1876; the Legion of Honour in 1878; the rank of "Officier" in 1884; the membership of the Institut in 1893; the "médaille d'honneur" in 1896; and the Grand Prix in painting in the 1900 Exhibition. Popular appreciation could not but follow the works of a painter whose Moorish pictures, brilliant in rich and glancing colour, showed also such startling and intense effects of lighting. Among these remarkable efforts may be named "Les Prisonniers Marocains"; "La Soif"; "Le Harem Marocain"; "Le Soir sur les Terrasses"; "Les Favorites de l'Emir"; "Les Derniers Rebelles" (in the Luxembourg); "Les Chérifas"; "Judith"; "La Justice du Chérif"; "Hérodiade"; "Mahomet II.," a colossal work exhibited in the great exhibition of 1878, and now in the museum of Toulouse; "L'Académie de Paris," the large decorative painting for the Sorbonne, which was illustrated in the *Builder*; "Paris Conviant le Monde à ses Fêtes," forming the central ceiling picture in the Salle des Fêtes of the Paris Hôtel de Ville; &c., &c. As a portrait painter Benjamin-Constant had a great and well-merited reputation. Among his best portraits were those of the Duc d'Aumale, of Pope Leo XIII., and that of his own son, whose premature death was to a great extent the cause of the breaking down of the artist's health. Benjamin-Constant was a man of wide general culture, with a general interest in art and literature, a bright and spirited manner in conversation, a man whose society was generally liked, especially among his juniors, to whom he was always kindly and generous. As a painter there was no doubt an element of sensationalism in his art, but it was a sensationalism of so powerful and picturesque a type that one could hardly judge it in a spirit of cold criticism. Some of his larger paintings of Oriental interiors are permeated by an intensity and brilliance of colour which seemed to place them quite apart from the spirit of western art in general. In his sumptuous portraits of ladies one was rather apt to feel that costume was the principal element and the countenance the least successful part of the picture. But if not exactly a great artist he was, taken all round, a most remarkable and almost phenomenal painter, as well in the brilliancy of his effects as in the remarkable extent and variety of the work which he accomplished.

GENERAL BUILDING NEWS.

INSTITUTE, ST. JAMES'S-STREET, S.W.—On the site of the house No. 55, at the corner (south) of Bennet-street, now being pulled down, will be built new premises for the American Dental Institute, from plans and designs by Messrs. Newman & Newman. The contractor is Mr. William Reason, of Rosebery-avenue, Clerkenwell.

ST. PAUL'S CHURCH, BERMONDSEY.—We learn that measures are about to be taken for carrying out some necessary repairs of the fabric, which is greatly damaged through dampness and other causes. The church was built in Kipling-street, for 750 sittings, in 1847-8, in the Early English style, after designs by Mr. S. Sandars Teulon.

ROMAN CATHOLIC CHURCH, SOUTH CROYDON.—Mr. F. A. Walters has been appointed architect of a new church that is to be built in South Croydon, in terms of a gift that has been made by an anonymous benefactor to the Roman Catholic Bishop of Southwark, for the erection of three churches in Stockwell, Croydon, and South Bermondsey respectively.

PRESBYTERIAN CHURCH, MUSWELL HILL.—The foundation-stone of the above building was laid on May 23. The church is designed in the Perpendicular period of Gothic architecture, freely treated. Externally the building will be faced with whole white flints, the dressings being of red terra cotta work. A tower, terminating in a spirelet, will form a prominent feature at the angle of the block, the site being at the corner of two roads. The plan approximates in form to a Greek cross. The ceiling internally is to be vaulted, the large central vault being carried up higher than the others for effect and better ventilation. Electric lighting will be introduced, and low-pressure hot water heating apparatus. The seating accommodation is:—On ground floor, 615; in choir, 34; in end gallery, 81. The contract is let to Messrs. Johnson & Co., Wandsworth. The architects, whose designs were accepted in a recent competition, are Messrs. George Baines and R. Palmer Baines, of London.

TRAINING COLLEGE, LIMERICK.—With reference to our short paragraph (p. 525, *ante*) announcing that a training college for girls had been erected in Limerick, we are now enabled to give further particulars. The building faces South Circular-road. The main entrance is approached by massive granite steps, 14 ft. wide, the retaining walls being capped with heavy cut stone. The whole of the building is faced with compo cement. It has limestone plinths, relieved with moulded limestone strings. The pilasters of the main entrance are of granite, elaborately carved, while on the apex of the pediment is placed a statue of Mary Immaculate, flanked on either side by two carved pedestals. The stone underneath the statue bears the date 1898. There are four entrances to the basement, along which runs a spacious corridor, 170 ft. long by 9 ft. wide, tesselated, and with skirting of chocolate-coloured glazed tiling. Situate in the bay at the north end of the basement is the refectory or dining-room, 56 ft. by 25 ft., capable of affording seating accommodation to 100 students. Behind, are the technical kitchen (in which instruction will be given in cooking) and the technical laundry. On the same floor is a bathroom, 41 ft. by 24 ft. From this floor wide stairs lead up to the top of the building; they are of Ballybricken granite, and have mahoghany balusters supported by ornamental cast-iron railings. At the south end is the chemical laboratory, the dimensions of which are 48 ft. by 24 ft. In the same part of the building is the workroom, in which instruction in various arts will be given. At this end a tesselated passage with glass roof leads to the recreation hall, a one-storied structure detached from the main building. The ceiling of this is of polished pitch pine enriched with carvings, and the lighting is from the centre by means of one of Hellwell's patent lantern lights. The hall is 74 ft. by 32 ft., and at present is used as a chapel, and in the glass-roofed passage leading thereto are constructed the music rooms. On the second floor at the north end is the lecture-room, similar in dimensions to the refectory, while at the opposite end is a classroom. The ceiling in this room is of varied shaded pine laid in herring-bone pattern, with drop moulds and cornices. The walls are of the same material, wainscotted in pitch pine, with moulded capping with a dado of the same material, to a height of 5 ft. The floor is carried on steel joists about 10 ft. apart, and resting on moulded Portland stone corbels. On this floor a number of other classrooms, reception rooms, and offices are situated. On the third and fourth floors are the dormitories, which are arranged in cubicles, while at the opposite end on the same landings are the lavatories. In the centre of the third floor there is a private oratory. With regard to the general fitting up of the building, the main source of water-supply is brought through 4-in. pipes from the lower end to the roof, so that in the event of fire a hose can be fitted over the taps. The building at present is lighted by gas, but each department has been fitted up with electric installation, so that electricity will be used as soon as the Corporation are in a position to supply it. Massive ornamental iron gates, with cut stone pillars, are to form the main external entrance. The plumbing work was executed by Mr. Costelloe, Waterford. Mr. P. Molloy, of Limerick, was the clerk of works, and Mr. M. Glynn, of North Brunswick-street, Dublin, the builder; whilst the whole was designed by and carried out under the superintendence of Mr. Byrne, architect, Dublin.

BUSINESS PREMISES, ABERDEEN.—New buildings, to be erected in Palmerston-road, Aberdeen, by the Port of Hull Trawl Fisherman's Protective Society, provide on the ground floor one double shop for the society and two single shops; the upper floors are for dwelling houses. There is also on the ground floor a large hall with committee rooms, clubrooms, &c. The building will supply accommodation for recreation in the large hall referred to, and the store provides the men with all necessary sea clothing. The estimated cost is 4,000*l.* Messrs. Sutherland & Pirie, of Aberdeen, are the architects.

WESTMINSTER CITY HALL.—This building was formally opened on Thursday. The architect is Mr. John Murray, the builders were Messrs. Patman & Fotheringham. The exterior shows a handsome stone front lineable with the existing buildings on either side. The style is an adaptation of English Renaissance. Within are ample offices, committee-rooms, and a council-chamber treated in a sober and substantial manner.

INDUSTRIAL SCHOOLS, GLASGOW.—It is proposed in the Roman Catholic Archdiocese of Glasgow that next year shall be devoted to the raising of funds to erect a suitable memorial to the late Archbishop Eyre. This memorial will take the form of the building of three industrial schools at Bishopbriggs, together with a chapel for the same, the whole to be known as the "Eyre Memorial Industrial Schools." The sum of 40,000*l.* is now in the trustees' hands.

WAREHOUSE, BELFAST.—A large warehouse has just been completed for Messrs Murphy & Stevenson adjacent to their existing buildings at the junction of Ormeau-avenue and Linenhall-street, Belfast. The new block occupies a site on Linenhall-street, with upwards of 170 ft. frontage, by 120 deep. The main buildings are upwards of 50 ft. wide, and are divided into six floors, attaining a height of 83 ft. to the parapet. At each end, circular towers are placed, with flat roofs, about 100 ft. high. At the rear of this building, and approached by a separate gateway, are placed a large covered despatch yard, engine and boiler houses, and dining hall. The ground floor has its principal approach from Linenhall-street, in the centre of the block. On the right is the brown room, and on the left are arranged spacious offices, with large packing-room and hoist. There are two principal fireproof stairs rising through the building. The top floor is arranged for a laundry and smoothing-room, special provision being made for a large supply of water from cisterns in the roof. The buildings are of red brick, with a sparing use of red sandstone; the latter material is used in large rock-faced blocks to the level of the ground floor sills. A feature is made of the main entrance, which comprises a wide, arched doorway, flanked by rusticated pilasters, carrying a bold cornice. Above this is a pierced parapet with blockings terminated in obelisks at a height of 30 ft. above the footway. A carved head, representing a female, indicative of the staple industry, forms the keystone, contrasting with two boldly modelled lions' heads at the level of the caps of the pilasters. The solid walls forming the porch are lined with Irish and other marbles, as is also an octagonal column in the offices. Marble mosaic is used in the vestibule, and terrazzo pavement in the passages, which are lined with ornamental tiles. The woodwork in the offices is of an elaborate character, principally mahogany and teak, polished. The sanitary arrangements have been carried out by Mr. J. Clements, Church-lane; and Messrs. Musgrave & Co. heated the building. The mosaic and terrazzo work is by Messrs. Ebner & Co., London; Messrs. Purdy & Millard executed the marble work, and Mr. George Coulter the painting. The general contractors are Messrs. W. J. Campbell

& Son, Ravenhill-road; and the architects are Messrs. Young & Mackenzie, of Belfast.

ISOLATION HOSPITAL, CUCKFIELD.—This hospital was opened on May 21. It is situated on Dean's Farm, about two miles from Burgess Hill, on the road running west to Hickstead. On the ground floor of the administrative block are provided the matron's room, doctor's room, nurses' dining-room, needle-room, the kitchen, scullery, storerooms, and offices, a wide corridor running through the building from front to rear. On the first floor are the matron's and nurses' bedrooms, bathroom, &c., and on the second, nurses' and servants' bedrooms. A large open area at the rear of the administrative block, crossed by asphalt paths, is bounded on the east and west sides by the two fever wards of the hospital, and on the north by the enteric and diphtheria ward. Each building is a considerable distance from the other. These wards are all ground floor buildings, with verandahs on one side. The east and west wards are identical in size and arrangement. Each is designed to accommodate ten beds, and is subdivided into two, the larger apartment containing six beds and the smaller four, the nurses' duty-room being placed between the two apartments, with observation windows looking into each apartment. The general height of the wards is 13 ft., the larger apartments being 36 ft. by 26 ft., and the smaller 24 ft. by 26 ft. The windows are numerous and lofty. The walls are finished in granite silicon plaster, and ventilators are fitted under and over each bed. The interior paintings throughout the hospital are of light green colour. The floors are coloured light red, done in papyrolith flooring, a German patent in which wood pulp and magnozite play a part. The verandahs are paved with terrazzo paving, an Italian flooring of cement and marble chips. The wards are warmed with grates throughout, one being in each apartment. In the nurses' duty-rooms are kitcheners, necessary offices, sinks, &c., being provided to each ward. Every ward is allotted a couple of wheeled baths, these being wheeled from outside into the wards when and where required. The north ward, for enteric and diphtheria patients, is similar in design to the other wards, but is smaller, divided into two apartments for two beds each, with the nurses' duty-room between, as in the larger fever wards. There is telephonic communication between the entrance lodge and the administrative block, and there is also inter-communication by telephone between the matron's rooms and the wards. The artificial lighting will be by oil lamps. To the east of the hospital is another range of buildings, called the laundry block, which provides coal stores; a laundry fitted with necessary apparatus; a disinfecting chamber, fitted with Dr. Thresh's patent disinfector; a small mortuary, shed for ambulance, oil store, &c. A rain-water tank is fitted to supply the laundry, the general water supply being from the Burgess Hill Water Company. To the south-east is the septic tank and the land necessary to deal with the drainage of the institution. The entrance lodge contains a hall, living-room, scullery, &c., with two bedrooms. The architect is Mr. G. T. Hine, of London, the building contractors being Messrs. Norman & Burt, of Burgess Hill. Mr. V. C. P. Lewis was clerk of the works.

CHAPEL, TONBRIDGE SCHOOL, TONBRIDGE.—The Archbishop of Canterbury on the 26th inst. consecrated the new chapel at Tonbridge School. It is designed by Mr. W. Campbell Jones to seat 500 persons. Two bays, cloisters, and permanent vestries, however, remain to be added when funds permit; the total cost will amount to between 23,000*l.* and 24,000*l.* The chapel is chiefly built of Kentish sandstone. The roof internally is constructed of pine, which has been painted and decorated in a simple scheme of grey, black, and yellow by Mr. Louis Davis. The length of the completed building will be 156 ft. internally by 41 ft. wide, and the height from the floor to the top of the arched ceiling is 58 ft.

CHURCH ROOM, WALTON.—The memorial stone of a new parish church room has recently been laid. The building is to commemorate the reign of Queen Victoria. The site is opposite the parish church, at the junction of High-street with Cage-lane, and the principal architectural features of the building are an entrance porch facing the main street, and a gable end effectively treated. Built of brick with stone dressings, the porch extends along nearly the whole front, and is surmounted by a parapet; the gable end is carried up in old-fashioned timber and plaster work, which forms the setting of a large bay window, and upon the apex of the roof there is a turret or "flèche" for ventilating purposes. The side walls are supported by buttresses, and the long frontage towards the lane is broken by a half-timbered gable, similar to the front. Internally, the accommodation comprises a hall 60 ft. by 30 ft., lofty and well-lighted; a committee-room 19 ft. by 16 ft., a kitchen, and other offices. At the end of the hall, a platform will be erected, and the wall space behind will be finished in Parian cement, which will set white, and form a permanent sheet for the display of lantern pictures. All the floors are of wood blocks, laid on concrete, and the heating, by hot-water pipes, will be effected from radiators placed in window recesses. Mr. Henry J. Wright, of Museum-street, Ipswich, is the architect; the contractor for the building work is Mr. H. J. Linzell; and the heating apparatus was supplied and fixed by Mr. E. Scott, St. Margaret's-green, Ipswich.

NEW CHURCH, COTTERIDGE, KING'S NORTON.—A church is to be erected at Cotteridge, King's Norton. The plans provide for a massive tower at the west end, but the upper portion of this is not included in the builders' contract. A further 450*l.* will be needed for its completion. In style the structure will be a modern adaptation of the order of architecture prevailing at the close of the fourteenth century, and the materials used will be red Leicester bricks for facing externally and internally, with external details in Doulton's grey buff terracotta, and internal details in green Quarella stone. The roof will be covered with green slates. The plan consists of a chancel with flatly canted apsidal end, 35 ft. long and 27 ft. 6 in. wide, out of which the organ chamber opens on the north side; a nave of five wide bays, 95 ft. 6 in. long, and of the same width as the chancel; north and south aisles and transepts—the latter, with a seating capacity for eighty-one, being used as a morning chapel. It is intended that the tower at the west end shall have a belfry for six bells, the lower story forming a large porch. A corridor flanking the south side of the chancel will give direct access to the mission room at the back of the church, in which are situated clergy and choir vestries—and at the same time serve as a return way for communicants. The nave and chancel will have a height of 32 ft. to the wall plate, with open timber roofs at a flat pitch, and the tower, which is to be covered with a lead flat, will be 75 ft. high to the top of its parapet. The church is to be amply lighted. The nave will have a clearstory with two windows of two lights in each bay, and there are to be coupled windows of one light in each bay of the aisles. The chancel will have a five-light window in the centre, and smaller ones on either side. The principal feature of the west end will be a large window of nine lights, with elaborate tracery. The church will have a seating capacity for 700, exclusive of clergy and choir, and the sittings throughout will be of stained deal. The architects are Messrs. Cossins, Peacock, & Bewlay, whose design was accepted in competition, and the builder Mr. W. Harvey Gibbs, of King's Heath.

SCHOOL BUILDINGS, ELY, CARDIFF.—New elementary school buildings were opened at Ely, Cardiff, on the 26th inst. They have been built at an estimated cost of 4,300*l.*, from plans prepared by Mr. E. G. C Downs, architect, Cardiff, the builder being Mr. Dunn, Ely. They afford accommodation for 204 children in the mixed department and 120 in the infants' department. The buildings are of red brick, with Bath stone dressings, and will be heated by ventilating stoves.

NEW LIBERAL CLUB, NESTON.—On Wednesday evening last the new Liberal Club at Neston (Cheshire) was opened. The building consists of a large hall with gallery and stage capable of seating about 700 people; billiard-room for three tables, which can also be thrown into the large hall, by means of folding screens; dining-room, cloakroom, committee-rooms, kitchen and serveries, secretary's office, four bathrooms, heating chamber, and cellars in basement. A verandah has been placed along the west front, which overlooks the bowling-green. The walls are of brick with red pressed dressings and white plaster gables. The roof is covered with green slates. The internal work is pitch-pine varnished. The heating is by low-pressure hot pipes and radiators. The contract has been carried out by Mr. James E. Evans, of Neston. The heating was done by Mr. Lewis Hill, Liverpool, and the architect was Mr. T. T. Rees, of Liverpool.

SANITARY AND ENGINEERING NEWS.

DEEPENING SOUTHAMPTON WATER.—At a meeting of the Southampton Harbour Board, held on May 20, the desirability of deepening the channel of Southampton Water, so as to accommodate the largest vessels afloat, was under discussion. It is estimated that the proposed dredging operations will involve an expenditure of 75,000*l.* The question was referred to a committee, who have reported that every effort should be made to meet the requirements of the new shipping combine.

CORROSION OF PIPES, CARDIFF WATERWORKS.—The Cardiff Waterworks Committee have had for some time under consideration the effect of the Taff Vawr water on the cast-iron pipes, which are subject to incrustation. Mr. Percy Frankland, F.R.S, Birmingham, who is an expert in matters of this kind, was consulted, and a report presented by him was read. He suggested certain experiments, such as the use of limestone in the filter beds, which would have the effect of hardening the water, but he would not guarantee that these experiments, if adopted, would prevent the incrustation. Mr. C. H. Priestley, the water engineer, also presented a report, in which he stated that to treat the water as Professor Frankland suggested would cost the town 2,000*l.* to 3,000*l.* a year. Any additional lime or other chemicals introduced into the water would have the effect of hardening it, and this for many purposes would be objectionable. —*Western Mail.*

BIRMINGHAM WATERWORKS REPORT.—The Report of the Waterworks Committee of the Birmingham Corporation shows, amongst other things, that the total consumption of water for the year ended March 31 last indicates an increase of 4·12 per cent. over that of the previous year, the daily average being 18·640 million gallons, against 17·901 a year ago. There has been an increase in all the zones, but chiefly in the low level. The increase, moreover, applies both to the measured and unmeasured supplies. The committee lay emphasis on the fact that the considerable shortage in the rainfall of the past winter, combined with the absence of any additional resources beyond those available last year, renders it necessary that the utmost care shall be taken to economise water during the coming summer. Further purchases of land have been made in connexion with the Elan supply, making the areas acquired by the Council for this scheme as follows: Freeholds, 10,326 a.; common and exclusive rights, 29,584; mineral or mining rights, 5,879; manorial rights, 36,903. The Committee records various negotiations necessitated by the Birmingham Corporation Water Bill, which, with amendments considered by the Committee as satisfactory, has now passed all its Parliamentary stages, and awaits only the Royal assent. The amount expended on the Elan Valley works during the year was 202,789*l.*, raising the total expenditure thereon to 1,209,809*l.* The Committee also states that the agreement with Mr. James Mansergh, as engineer in charge of the Elan works, has been made to apply to Messrs. James Mansergh & Sons, a partnership formed of Mr. Mansergh and his two sons. A table shows that the total authorised capital under the Acts of 1875, 1879, and 1892 is 6,600,000*l.*, while 1,800,000*l.* remains to be borrowed. A comparison of the rentals during 1902 and 1901 shows that 150,016*l.* were received, as against 142,579*l.* from domestic supplies; 26,287*l.*, as against 25,565*l.* from unmeasured trade and miscellaneous supplies; and 75,179*l.* against 72,821*l.* from measured supplies. Another table shows that from 9,183,000,000 gallons pumped in 1891, and 6,141,000,000 gallons distributed in 1891, the amount pumped in 1902 was 11,813,000,000 gallons; and the amount distributed 6,785,000,000 gallons. The number of miles of mains in December, 1875, was 252,448, and at the end of the last year 648,173. The expenditure on works and buildings (less depreciation) outside the Elan supply has been in the meantime 347,814*l.*, but the total expenditure has been 5,107,165*l.*—*Birmingham Gazette.*

STAINED GLASS AND DECORATION.

MEMORIAL WINDOW, BAGSHOT.—The parishioners of Bagshot have decided to fill the large west window of the parish church with stained glass, representing King David and King Solomon, together with the Royal arms, in memory of Queen Victoria, who always took great interest in the church, which adjoins the Duke of Connaught's estate. The Duke and Duchess of Connaught have subscribed 150*l.* towards the cost of the memorial.

MEMORIAL WINDOW, SALISBURY CATHEDRAL.—A stained-glass window which has just been placed in the north aisle of the choir of Salisbury Cathedral in memory of the late Lord Radnor, was formally dedicated on Sunday, the 18th inst., by the Bishop of Salisbury. The designing and painting of the window are the work of the Dowager Lady Radnor. The upper section is devoted to a representation of the four Archangels and the lower to the Saints. The following is the inscription: "Thanking God for the dear memory of William, fifth Earl of Radnor, P.C., 1841-1900. This window was painted by Helen Matilda, his wife, and erected by her and her children, Jacob, Wilma, and Stewart." The window is a companion to the two in the south choir aisle to the memory of Jacob, the fourth Earl, and his Countess.

WINDOWS, ROYAL CHAPEL, WINDSOR.—A massive gun-metal cross and stained glass memorial windows have been placed in the Royal Chapel, Windsor Great Park, to the memory of Major Prince Christian Victor, who died of enteric fever at Pretoria in October, 1900. An inscription states that the memorial has been placed there by his friends. It was designed by Mr. A. Z Nutt, architect at Windsor Castle.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENT—Messrs. Heathman & Co., the ladder manufacturers, have opened a South Kensington depôt at 351, Fulham-road

THE DRINKING FOUNTAIN, PARLIAMENT-SQUARE, S.W.—Messrs. J. Whitehead & Sons, of Rochester-row, are engaged upon the renovation of the stone and mosaic work of the drinking fountain that was erected in 1865 by the late Charles Buxton to commemorate the labours of Clarkson and Wilberforce, in which Sir Thomas Fowell Buxton, Bart., afterwards shared, in the cause of the abolition of slavery. The fountain, which is illustrated in the *Builder* of January 27, 1866, was designed by S. Sandars Teulon, and, being one of the first of its kind built in London, presents an early example of polychromy as adopted in materials for work exposed to the weather. All of the stonework and sculpture was executed by Mr. Earp; for the roof were adopted plaques of iron, enamelled, and with raised surfaces, then newly introduced by the Skidmore Art Iron Company.

HOUSING OF THE WORKING CLASSES, LONDON.—A scheme has been drawn up by the Westminster City Council for building, at an estimated outlay of more than 100,000*l.*, on the Regency-street site blocks to comprise 344 separated tenements, having 793 rooms, which, it is calculated, will yield a net rental of 4,139*l.* per annum, after deduction made of 2,535*l.*, or 36 per cent. of a computed gross rental, 6,674*l.*, for outgoings. The proposed accommodation will provide for twelve four-roomed tenements to be let at 10s. 6d., 126 three-roomed tenements at 9s., 161 two-roomed tenements at 7s., and forty-five single rooms at 4s. per week.——The trustees of the Lambeth Hayles Charity have approved the plans and designs prepared by Messrs. Waring & Nicholson for the erection of four tenement houses, to contain thirty-four rooms in all, in Hayles-street, St. George's-road, Southwark.——The Borough Council of St. Pancras will build blocks of houses on the east side of a new street, which is to be laid out in continuation of Burton-street, Crescent-place, to Mabledon-place, Euston-road, and a similar block on the north side of Prospect-terrace, Gray's Inn-road.——The Borough Council of Bermondsey will widen certain streets in Rotherhithe as part of their scheme for the erection of homes for the industrial classes on the Paradise-street and Rotherhithe-street site, to be carried out by Mr. R. J. Angell. Messrs. N. S. Joseph, Son, & Smithem are appointed as architects of the dwellings on the site in Westminster.

PROPERTIES FOR SALE.—On July 8 will be offered for sale at auction the Mount Felix Estate, Walton-on-Thames, of which the house and gardens by the waterside are familiar to frequenters of the river. The property extends over 50 acres, having a frontage of 400 yards to the Thames; and the beautiful pleasure-grounds, laid out in terraces and lawns, are famed for their cedar, pine, and fir trees. The house, formerly the property of the Bennets, Earls of Tankerville, was built from Sir Charles Barry's plans and designs in 1835-9, after the Italian manner, for Charles, fifth Earl of Tankerville, who effected great improvements of the property, near the site of the house which his father purchased many years previously. In the west wing of the house is the tower, of three stories, rising to 70 ft., and square on plan, which forms so conspicuous a feature in the view; the lowest stage is designed as an arcaded portico, which covers the principal entrance into the reception-hall, that measures 45 ft. by 30 ft., of the house.——The manor-house of Ashby St. Ledgers, near Daventry, Northamptonshire, is also placed in the market. It is a fine old building, standing by the north side of the churchyard. The west and south fronts, of Edward III.'s time, are finished with gables and an open parapet. The east front has been considerably altered. The place is closely associated with the history of the Gunpowder Plot as the home of Robert Catesby, a descendant of the John Catesby who acquired the property by marriage with Emma, daughter of Robert de Cranford, *temp.* Richard II. His grandson, Sir William—the "cat" of the oft-quoted couplet—was taken prisoner on Bosworth field. At the reversal of the attainder his son George regained the estates, which included others at Catesby, not far distant, and at Lapworth, Warwickshire, in 1495. After Robert Catesby's death in the defence of Holbeach House, Kingswinford, Ashby St. Ledgers, having been escheated to the Crown, was granted in fee, in 9 James I., to Sir William Irwing, who in 1612 sold it to Bryan I'Anson, an Alderman of London. In 1703 Joseph Ashley, of Great Broughton, bought the manor from I'Anson's descendant, and it remained in his family until about fifty years ago. There is a local tradition that the conspirators used to meet in the small chamber, having a bay window, above a gateway that stands between the house and the church. The church, dedicated to the Virgin and St. Leodegarius, Bishop of Autun, contains many brasses and monuments, comprising memorials of the I'Ansons and the Ashleys; of Sir Richard Catesby, a brass, 1553; of Sir William Catesby (*ob.* 1470) and his two wives Philippa and Johanna; a highly elaborated brass within the altar rails of Richard III.'s favourite Sir William Catesby and his wife Margaret Zouche; and in the south or Trinity aisle a brass, reputedly of their grandson William (*ob.* 1518), of a knight in plate armour, kneeling on a cushion, with the coat-arms of that house on his tabard.

PROPOSED STREET IMPROVEMENTS, BIRMINGHAM.—The question of street widening has recently occupied much of the attention of the Public Works Committee. In a report to the Council, the Committee have recommended the purchase from the Baths and Parks Committee, of a piece of land jutting on to the roadway in Green-lane. They also consider that Dale End should be widened. Near St. Peter's Church the width of the carriage way is only 24 ft., and in order to improve the street, especially having regard to its probable use as a tramway route, they recommended that 35 yards of land be purchased from the Young Men's Christian Association. They also advise the widening of Vauxhall-road and Sladefield-lane.

SUBWAYS IN LONDON.—The City Engineer (Mr. D. J. Ross), in a report to the Corporation on the subject of the works executed during last year by the Public Health Department, states that beneath the City streets there are one and a half miles of subways under the control of the Corporation, but there are other subways not controlled by the City authorities. The lengths of gas, water, telegraph, and other tubes, laid in the corporate subways extend over eleven miles, being an increase of three miles during the year. The electric light and telegraph conduits alone contain some thousands of miles of wire. The inspector of subways reports that 15,335 workmen and others were admitted during the year for various purposes. The engineer also submits some figures with reference to the cleansing of the City, within which more than 300,000 persons pass the day and nearly 100,000 carriages enter and leave. The quantity of water for washing was 37,708,690 gallons, while the amount of refuse removed was sufficient to fill 44,975 vans, together with sweepings and slops from the public ways; making a total of 75,090 loads. The refuse destroyed at Lett's wharf was represented by 22,657 loads, which produced a residum of 3,961 loads of valueless clinker, for the removal of which the Corporation had to pay.—*Times*.

HOUSING AT NORTHALLERTON.—Dr. W. Baigent, the Medical Officer to the Northallerton Urban Council, has reported to the North Riding County Council that house accommodation for the working classes in the Northallerton area requires extension and improvement.

LARGE CLOCK, EDINBURGH.—The new clock which has been erected over the Waverley Station Hotel, in Princes-street, Edinburgh, is the second largest in Scotland. The diameter of the face is 12 ft. 9 in. The framework of the face is cast iron, and it is glazed with opal glass a ¼ in. in thickness. The numerals are also of cast iron, and each of the figures is about 2 ft. in length. The centre part of the face is composed of eight panes of opal glass, cut in diamond shape. The minute-hand is 6 ft. 4 in. long, and the hour hand 5 ft. The pendulum is 14 ft. long, and weighs over 4 cwts. The dials are to be illuminated with electricity, regulated automatically. A machine will switch the light on and off, and will be adjustable for different lengths of days. The contractors were Messrs. Hamilton & Inches, Princes-street, Edinburgh.

YORKSHIRE WESLEYAN CHAPELS, &C.—Among the cases submitted to the Wesleyan Chapel Committee at their recent meeting were the following from Yorkshire and the North:—Doncaster: The erection of a new chapel at Bawtry, at an estimated cost of 1,680*l.*, with accommodation for 370 worshippers. Ripon: A new chapel at Aldfield, religious services now being held in a room. The proposed outlay is 540*l.* Bradford (Otley-road): Purchase of Bethesda Church, at a cost of 1,222*l.*, with seating accommodation for 450. Easingwold: A new chapel at Crayke, to seat 100 persons, at an estimated cost of 600*l.* Two chapels in Ilkeston circuit are to undergo extensive alterations, also chapels in the Malton, Withernsea, Doncaster, and Clitheroe circuits. Additional land and cottages are acquired at Headingley, Leeds, at a cost of 2,000*l.* A school enlargement at Doncaster is to cost 1,000*l.* New ministers' houses are to be built at Chesterfield, cost, 1,100*l.*; Newark, 1,020; Tadcastle, 820*l.*; Retford, 948*l.* New organs are to be put in Halifax (Wesley), cost, 750*l.*; Denby Dale (Thurlston Church), 200*l.*; Wath-upon-Dearne (Haugh), cost, 300*l.* Land is to be acquired at Easingwold for extension.—*Sheffield Telegraph*.

ELECTRICITY WORKS, MANCHESTER.—The generating station in Stuart-street which has been erected by the Manchester Electricity Committee was formally opened on the 27th inst. The station, the completion of which will enable the Electricity Committee to provide the necessary current for the electric tramways and to increase very considerably the supply of electricity for lighting and motor purposes in the city, covers an area of 8½ acres. Within the building there are to be two installations—the present installation of 15,000 horse power, devised by Dr. Kennedy, and a second installation of 12,000 horse power, in accordance with a scheme of extension prepared by Mr. G. F. Metzger after his appointment as chief engineer in 1901. Under Dr. Kennedy's scheme six 2,500-horse power steam alternator sets are being installed, in addition to twenty-four water-tube boilers and other plant. Three-phase alternating currents of a frequency of fifty cycles per second are generated at an "extra high pressure" of 6,500 volts, and are transmitted at this pressure to the sub-stations. The supply from the sub-stations is at 500 to 550 volts pressure for supply to the tramways, and at 410 and 205 volts pressure for lighting and power purposes. The buildings at Stuart-street consist of a steel framework, filled in with walls of brickwork. This design has been adopted, in the first instance, in view of the importance of completing the works with all possible speed. The boiler-house, pumproom, and engine-house are all on an extensive scale. Workshops will be provided in a separate building, above which will be placed a large storage feed-tank to contain 500,000 gallons of water. In connexion with this scheme ten sub-stations are being erected upon the south side of the city. In order that sufficient power might be available for running the Hyde-road and Stockport-road tramways on June 1, special efforts have been made to complete the 200 ft. chimney (another chimney 250 ft. high will also be erected), the north and centre bays of the boiler and engine houses, and certain portions of the plant which they contain, as well as the sub-stations at the Polygon, Bennett-street, Levenshulme, Heaton Norris, and Denton, and the cables connecting Stuart-street and the sub-station. Under the scheme of Mr. Metzger two machines of 6,000 h.-p. each, are to be put down. The buildings required to house this additional plant are, however, to be of sufficiently large dimensions to accommodate 24,000 h.-p. These buildings which have not yet been erected, will be similar in character to those already described, and ten additional sub-stations are to be provided in connexion with this installation. When both schemes have been completed, the total horse power available at the various works of the electricity department (Dickinson-street, Bloom-street, and Stuart-street) will be 58,000 h.p., and 360 miles of cables will be needed to transmit the current. The Tramways Committee alone will require current for 800 cars, and the lamp connexions will amount to half a million 8-c.p. lamps.

CAPITAL AND LABOUR.

BRICKLAYERS' WAGES ADVANCED, LONG EATON.—An advance of wages has been granted to bricklayers in Long Eaton. Last November the members of the Bricklayers' Society gave notice of an advance of a halfpenny per hour and a code of working rates to be drawn up, this notice to expire on the first day of June, 1902. A meeting was arranged between the employers' association and a deputation of the bricklayers. The association was fully represented, and the employees were represented by the president, secretary, and treasurer of the branch. After a long discussion, during which the men's delegates placed their arguments before the employers in a most forcible and sensible form, the employers decided to give the advance, and sign the code of working rules without alteration. This will bring the wages of bricklayers up to 9d. per hour. Seven years ago the various departments of the building trade in the Long Eaton district, with the exception of the carpenters and joiners, were all practically without a shadow of organisation. Through the efforts of six men, under the leadership of Mr. W. Angrave (the organising secretary of the Long Eaton and District Trades and Labour Council), the branches were thoroughly organised, while advances of wages have been secured for the bricklayers, labourers, painters, joiners, and masons without any serious dispute. The only strike that has occurred, was the builders' labourers, and that was only of ten days' duration. Nearly two years ago the Building Trades' Federation was founded by the secretary of the Trades Council, and now all branches are affiliated, with a total membership of 350.—*Nottingham Express*.

PAINTERS' WAGES, BATH.—Mr. T. S. Cotterell presided over a joint meeting of the Master Builders', Painters', and Decorators' Association and the Amalgamated Society of Decorators and Painters, held at Bath on the 23rd inst. After a long conference, the men retired from the meeting. On returning, the chairman said the employers had given careful consideration to all points brought before them in all their bearings. They had decided to receive the rules submitted to them by the men, with the exception of two items. In rule 1 they had decided to raise the wages to 6½d. per hour instead of 7d. asked for, and in rule 6, "Walking time to be allowed to all jobs up to three miles from the Guildhall, at the rate of three miles per hour," would be altered from "the Guildhall" to "the workshop."

LEGAL.

BUILDER'S COMPLAINT AGAINST A NEWSPAPER.

IN the Chancery Division of the High Court of Justice on the 27th inst., the case of William Brown & Son *v.* the *Daily Mail*, came before Mr. Justice Joyce on a motion by the plaintiffs, builders and contractors, for an injunction to restrain defendants from printing or publishing any statement to the effect that the contract or contracts for the erection of the Midland Railway Hotel at Manchester had been taken out of the hands of the plaintiffs and given to Mr. James Stewart, of the firm of Messrs. Stewart & Co., or to Messrs. Stewart & Co. It seemed that the plaintiffs had contracted for the erection of the buildings in question and that Mr. James Stewart, or his firm, who were American contractors, were engaged by the Midland Railway Company to supervise the erection of the hotel in some way with the object of expediting it The defendants had published in their paper under headings such as "Contracts Lost to England" and "American Energy," &c., paragraphs to the effect that Mr. Stewart had obtained the contract for the erection of the hotel, and this the plaintiffs complained had caused them serious loss and injury in their business. The defendants subsequently published corrections of these misstatements and apologised, and in court, through their counsel, expressed regret for the mistake which had been made, and offered to pay the costs of the action. They also gave an undertaking not to further publish the statements complained of.

His Lordship, upon this undertaking, made no order on the motion.

Mr. Lawson Walton, K.C., Mr. Younger, K.C., and Mr. Higgins appeared for the plaintiffs, and Mr. Hughes, K.C., and Mr. Sheldon for the defendants.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

1,640.—WATER SUPPLY (DOMESTIC): *S. M. Rutnagur.*—A shaft along the axis of a cylindrical casing carries an inner rounded and weighted tipping-tank which engages with a pin upon a ratchet-wheel to be turned with a handle from the outside. The valve within the extended and upper portion of the casing is mounted upon a screw having arms that will engage with two pins upon the periphery of the tipping-tank. When, therefore, one pin tips the tank the valve is opened, and water flows through a pipe and a port into the tank to fill the tank. After the tank is full it will tip towards the right hand, whereupon the other pin will strike the arm and shut the valve. For a less amount of discharge the handle will serve to tip the tank at any time, and, in a variant form, the opposite turning of an oscillating handle will effect that object. Confer also Nos. 13,796 of 1900 and 1,203 of 1901.

1,692 3.—HOT-WATER APPARATUS FOR BATHS: *L. Roovers.*—For automatically supplying gas to the burners when the water has been turned on, and for the reversed operation, the inventor places the water-supply pipe in communication with a Bourdon tube, and inserts into the gas-supply pipe a valve having a liquid seal of which the rod is joined by means of a series of levers to the free end of the tube. 1,693.—The heating-grate of the geyser or similar heater is secured to the base of the apparatus by the two ends of its air and gas inlet pipe, the one end being fitted with a mixing-chamber and the other end being closed; a nozzle (for which see No. 12,562 of 1896) distributes the water on to a cone-shaped plate.

1,704.—A ROAD WATERING AND SWEEPING MACHINE: *F. T. Collins.*—The self-propelled sweeper carries a dirt receiver and a rotating brush upon bearings in the sides of a hood pivoted along the axis of shafts, and on the shafts are the pulleys that transmit motion from a motor to the brush, whereof the pressure is regulated with adjustable counter-weights upon levers; motion is transmitted to the driving wheels by an intermediate shaft fitted with an equalising-box and an engaging and disengaging clutch. Pipes, fitted with regulating valves, convey water from a tank to two sprayers at each end of the brush; an air-pump worked with an eccentric and gearing maintains in the tank a certain amount of pressure, which is regulated by interposing a spring between the two parts of the eccentric rod, whereof the one slides as its pin engages with a slot in the other part.

1,750.—KEYLESS LOCKS: *L. Dove.*—One end of the bow or staple is set in engagement with a recess in the body of the lock, whilst its other end is pivoted on to the lock-casing; of two plates carried by the pivot-bolt (which is passed through the body) the front plate is channelled for engagement with a stud upon the body. A pin will enter into a hole in the bolt when in a particular position. A recess extending from the channels of the front plate enables one to slide the bolt and plates relatively to the body, so that the recess will be uncovered for the engagement, or disengagement, of the bow when the bolt and plate have been adjusted in accordance with a pre-determined collocation of signs or figures upon the bolt-head and the plate. The lock will be fastened at the dislocation of the setting when one slides the bolt and plates backwards and turns the plates and bolts. The mechanism will avail for a sliding bolt for tills, cupboards, and so on, by joining the plates to a detent-pin, to be drawn out of a hole in the bolt, whereupon one can work the bolt with a thumb-bit or a key.

1,751.—IMPROVEMENTS IN DRY CLOSETS AND THEIR PAILS: *F. J. Bennett.*—The bottom of the receiving pail is perforated, and underneath it are arranged within a wheeled frame two or more perforated trays having air spaces above and below them. Liquid is absorbed by peat or other suitable material laid in the trays, or it may be collected in a funnel and be conveyed directly to the trays. Perforated pannels at the back provide ventilation to the closet.

1,784.—A METHOD OF RENEWING STAIR-TREADS: *F. Jensen.*—For cutting out worn portions from the treads and replacing them with fresh wood is devised a crown saw, carried upon a spindle and worked with handles, which cuts out the worn portion. A chisel is then used for the removal of the pieces, and an adjustable iron or cutter fastened beneath a plate that is pivoted on one of a row of pins and can be moved from one pin to another for the planing of the entire surface of the recess. The spindle that carries the saw is secured in a standard which can be adjusted in three directions.

1,821.—APPLIANCES FOR VENTILATION: *H. Ridgway.*—The air-current is regulated by mechanism that comprises an actuator, in two parts, that shuts or opens the valves or bars of the ventilator, and means of coupling the two parts to one another; the two faces of each bar of the ventilator are plain and gridded respectively. Offset portions of a track or guide that extends across the frame are detachably connected to lugs that hang from the under side of the frame. Studs on the guide which supports the two-part actuator form pivots for the ventilator-bars at one end, the bars being carried at their other ends upon pivot-screws that are tapped into a flange that hangs from the frame. Additional means are supplied for working one bar alone, and for preventing the actuator from moving sideways. For working two of the bars together is devised a coupler having a lever whereof the rounded fulcrum rests upon a recess in one part of the actuator, and a hook that engages with the other part. The lever has a projection that is to be pressed towards a foot-piece whereby the two parts of the actuator will become separated through the disengagement of the hook.

1,833.—FLUSHING APPARATUS: *A. G. O'Brien.*—Above the tank is arranged a container for some granulated disinfecting material. The discharge-pipe of the container has two valves that are carried upon a rocking lever joined to the pull chain. The lower valve will be closed, and the upper valve will be opened, by the working of the chain in order to raise the flushing valve, but the valves will resume their former places as soon as the chain is freed, whereupon the disinfectant drops into a basket at the lower end of the discharge-pipe, to be dissolved by the water in the tank.

1,869.—AN APPLIANCE FOR USE WITH INCANDESCENT GAS BURNERS: *E. M. Goldstraw.*—The burner is cleaned by impelling air into a Bunsen-tube by means of a ball, mouthpiece, and so on, fitted upon the end of a tube which should have a clip or seating for closing the air-inlets of the Bunsen-tube into which the nozzle of the main tube is not introduced. Two nozzles and a communicating air-channel may be made in one piece with the seating or clip.

1,873.—A CONTRIVANCE FOR SASHES, SHUTTERS, &C.: *J. Parsons.*—In order that sashes may counterbalance one another and be moved at one and the same time in opposed directions the inventor attaches racks to the stiles of sliding sashes, or shutters, and sets them in gear with middle pinions that are carried in metallic frames, the frames being inserted into the outside frame or casing.

1,909.—MEANS OF ESCAPE FROM FIRE: *F. à Brassard.*—On a carriage is set a telescopical standard which supports a "jumping sheet" whereof the outer edges are joined to the upper ends of a set of rods pivoted on to the top of a section tube; the rods can be folded together and be opened outwards with stretchers that are joined to a socket which is worked with racks and pinions. When the escape is not being employed the sheet and its supports are folded together and removed from the standard.

1,920.—IMPROVEMENTS IN WINDOW CASEMENTS: *J. C. Moore.*—For purposes of repair, cleaning, &c., the casement is fitted with pivots or studs that slide in curved guiding-slots fashioned in the frame, and the casement is pivoted on to tapered links or flaps which are hinged on the frame. When one opens the casement upon its hinges in the ordinary manner an oval crank-plate, worked by the hand, prevents the studs from moving in the slots, since the crank-plate presses against a fixed pivot-pin which is set in alignment with the hinge-pins of the casement.

1,958.—EXTINCTION OF FIRE: *F. Wright.*—A heavy stopper, which its own weight retains in place, is used for closing the acid-bottle that is hung in a wire cage affixed to the screw-cap of the main holder. Into the recess between the cap-flange and the conical stem of the stopper is inserted a washer. The stopper will fall out and effect a mixing of the acid and alkali when the holder is inverted.

1,994.—ELECTRICAL ENERGY METERS: *Allgemeine Elektricitäts G.*—The inventors seek to effect a reduction of the consumption of energy in shunt circuits For an induction motor meter, serving for a three-phase three-wire alternating system that may be unequally loaded, they devise a rotatory disc, which they cause to be acted upon at the opposite sides of its spindle with two coils in mains; the coils co-operate respectively with pairs of coils in a shunt circuit between the mains. The currents in the pairs of coils are 90 deg. and 150 deg. respectively, out of phase with the currents in the former mains when the load is balanced and non-inductive, and that phase displacement in one of the pairs of coils is brought about by so connecting the shunt circuit that the current in it shall flow in a reverse direction from that in the coil in the main, and by making the shunt circuit with an inductance to give 30 deg. displacement. A permanent magnet retards the disc, for which may be substituted two discs upon one spindle, to be independently acted upon by the two magnetical systems, for which see the meter specified in No. 3,056 of 1900.

2,027.—A SELF-CLOSING VALVE: *C. Smith.*—A lug or stop restricts the turning of the upper spindle to which the hand-grip is secured, whilst the lower end of that spindle is bevelled for adjustment with the similarly bevelled end of the lower spindle. The casing has a vertical groove in which slides a pin that projects from the guiding disc of the lower spindle. The valve will be opened against the pressure of the spring that normally keeps it shut when one turns the hand-grip, so as to cause the nose upon the upper spindle to force the lower spindle downwards.

2,037.—A COMBINED PIPE-WRENCH: *E. E. Tryon.*—Holes in the handle take a rod that can be turned with its thumb-piece for the adjustment of the two jaws, and a socket in the handle takes the screws which hold fast the stem of the fixed jaw; the other jaw, sliding on the stem, engages with a screw that freely turns in the fixed jaw, and the rod is to be jammed into a socket in it. The tool serves for a pipe-wrench, having a notch in the sliding jaw and a toothed dog in a socket in the other jaw opposite the notch. A wheel opposite another notch in the sliding jaw will cut rods or wires; one face of the fixed jaw can be used as a hammer, and there are recesses in the two jaws for a tap or drill.

2,040.—A DEVICE FOR HANGING LAMPS: *F. Mucke and Deutsche Continental Gas G.*—A clip, for which confer No. 14,494 of 1900, adjusts the supporting rod vertically, and has a retaining extension-piece adjustably mounted upon a horizontal arm pivoted on to a clip; a set of cross-bars upon the vertical rod may be substituted for the clipping-device, two tubes or a bent rod may replace the extension-arm, and cam-like rollers or eccentrical wedging clips may be used for clipping the suspension rod; over a pulley that slides separately upon a single rod is passed the chain for lifting or lowering the lamp, and the gas-burner is joined to a swivelling gas-pipe that is screwed into a cone screwed on to a shell, the gas-supply pipe and a plug being screwed on to the shell.

2,066.—A CALLIPER GAUGE: *E. Laurent and H. Icard.*—The gauge is fashioned of metal in the shape of a rigid bow, and there is a set of graded and faced blocks for taking a number of different and defined thicknesses of the work. A pair of the blocks is fitted in sockets at the two ends of the bow.

2,076.—A WINDOW-SASH FASTENER: *J. Ramsey, J. Burns and F. Haywood.*—A socket secured to the lower sash is bored out in a portion of its length, the rest of the hole being screw-threaded, to the upper sash is fastened a corresponding but shorter socket, having a threaded hole in its length. The screw-threads in the former socket are engaged by a screw which is to be screwed into the hole in the latter socket. For fastening the sashes with a key that fits the end of the screw, the key is slotted that when inserted it shall pass the cross-bar of a tube in the bored-out part of the socket on the lower sash, and the due registering of the two sockets is effected by a taper groove in one that engages with a projection from the other.

2,086.—AN APPLIANCE FOR USE WITH CONDENSING-OIL OR GAS STOVES: *F. Hatcher.*—To adapt the stove for heating kettles and similar purposes, the inventor diverts the heated products of combustion up a chimney into a chamber, and thence down pipes into a lower condensing chamber. For heating a kettle, &c., one removes from the top of the upper chamber a cover that lies on the same level as that of the perforated top plate. An ordinary flat-bottomed kettle can be used if the perforated plate is removed, too.

MEETINGS.

SATURDAY, MAY 31.

Edinburgh Architectural Association. — Visit to Stirling.

Incorporated Association of Municipal and County Engineers.—Meeting at Town Hall, Newbury. 2 p.m. Mr. S. J. L. Vincent, Assoc.M.Inst C.E., on "Newbury Municipal Work." Visits to places of interest in the district afterwards.

Northern Architectural Association. — Visit to Durham.

MONDAY, JUNE 2.

Institution of Junior Engineers.—Visit to the new Signal Cabin of the South-Eastern and Chatham Railway. Meet at Charing Cross Station 7 p.m.

Society of Engineers.—Mr. C. Rous-Marten on "Some Twentieth Century Locomotives." 7.30 p.m.

WEDNESDAY, JUNE 4.

British Archæological Association.—Rev. H. J. Dukinfield Astley, M.A., on "Tree Worship: Ancient Rites and Modern Survivals, particularly in the British Isles." 8 p.m.

Royal Archæological Institute of Great Britain and Ireland.—Mr. H. Jones, F.S.A., on "Roman Remains lately found in Greenwich Park." 4 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting. 8 p.m.

Royal Archæological Institute. — General meeting. 4 p.m.

THURSDAY, JUNE 5.

Royal Institution.—Mr. M. H. Spielmann on "Contemporary British Sculpture." III. 3 p.m.

FRIDAY, JUNE 6.

Royal Institution.—Sir Benjamin Baker on "The Nile Reservoir and Dams." 9 p.m.

SATURDAY, JUNE 7.

Northern Architectural Association. — Students' Sketching Club Excursion.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 10.—By EDMUND RICHARDSON (at Appleby).

Warcop, &c., Westmorland.—The Warcop Tower Estate, 179 a. 0 r. 3 p., f. £5,65

May 13.—By LANGRIDGE & FREEMAN (at Tonbridge)

Hadlow, Kent.—Hadlow-rd., The Hermitage and 7½ a., f., p. £1,250

By DEBENHAM, TEWSON, & Co.

Stepney.—Rectory-sq., &c., i.g.r.'s 164*l.*, u.t. 62 yrs., g.r. 110*l.* 1,010

Rectory-sq., &c., i.g.r.'s 147*l.*, u.t. 62 yrs., g.r. 90*l.* 1,060

Plumstead, Kent.—225 and 227, High-st. (S), u.t. 84½ yrs., g.r. 9*l.* 10s., y.r. 82*l.* 1,190

237, High-st. (S), u.t. 84½ yrs., g.r. 4*l.* 15s., y.r. 40*l.* 590

Hoxton.—157, 159, and 161, New North-rd. (S), u.t. 31 yrs., g.r. 18*l.* 18s., y.r. 160*l.* 1,670

175 to 191 (odd), New North-rd. (s), u.t. 31 yrs., g.r. 56*l.* 14s., y.r. 455*l.* 4,595

Pimlico.—Hindon-st., i.g.r. 31*l.* 10s., u.t. 22 yrs., g.r. 8*l.* 8s., with reversion 290

By WILTSHIRE & THURGOOD.

Lewisham.—22, Lewisham-hill, u.t. 39 yrs., g.r. 12*l.*, e.r. 70*l.* 550

By P. M. PUCKRIDGE (at Melksham).

Melksham, Wilts.—Shurnhold Estate, 141 a. 2 r. 37 p., f. 9,800

By STEPHENSON & ALEXANDER (at Swansea).

Llanedy, &c., Carmarthen.—The Plas Llanedy Estate, 688 a., 0 r. 3 p., f., including mines and minerals (in lots) 12,620

By G. LOVEITT & SONS (at Coventry).

Coventry, Warwick.—3, Regent-st., f., y.r. 25*l.* .. 570

11, Warwick-row, f., y.r. 35*l.* 640

Queen Victoria-rd., stabling and gdn., u.t. 90 yrs., g.r. 13*l.* 14s. 4d., y.r. 19*l.* 160

May 14.—By H. DONALDSON & SON.

Dalston.—95 and 97, Shrubland-gr., u.t. 47½ yrs., g.r. 14*l.*, y.r. 74*l.* 610

73, Parkholme-rd., u.t. 90 yrs., g.r. 8*l.* 8s., p. .. 750

Clapton.—19, Powell-rd., f., e r. 32*l.* 515

Walthamstow.—1 to 6, Grigg's rd., f., w.r. 171*l.* 12s. 1,610

By FULLER, MOON, & FULLER.

Caterham Valley, Surrey.—Tupwood New-rd., Tetuan and ¼ acre, f., p. 1,995

By ROGERS BROS.

Peckham.—23 and 25, Adys-rd., u.t. 72 yrs., g.r. 10*l.*, y.r. 60*l.* 610

Camberwell.—11, Grosvenor-ter., u.t. 53 yrs., g.r. 7*l.* 5s., q.r. 38*l.* 375

By RUSHWORTH & STEVENS.

Holloway.—27, Parkhurst-rd., u.t. 50 yrs., g.r. 8*l.* 10s. 515

By C. & F. RUTLEY.

Caterham Valley, Surrey.—High-st., five freehold houses and shops, y.r. 206*l.* (in lots) 3,635

High-st., freehold livery and posting stables with house adjoining, y.r. 100*l.* 1,925

High-st., three houses and shops, f., y.r. 129*l.* . 2,400

High-st., house and shop, with blacksmith's forge, stabling, &c. f., y r. 60*l.* 890

High st. (near), freehold stabling and coach-house buildings, y.r. 10*l.* 210

1, 2, and 3, Beulah cottages, f., w.r. 54*l.* 12s. .. 440

Mount Pleasant, the Laundry, f., w.r. 32*l.* 10s. . 330

Upper Mount Pleasant cottages (four), f., w.r. 52*l.* 300

By TOMLIN & Co.

Forest Hill.—167 and 169, Stanstead-rd., f., y.r. 52*l.* 815

Stanstead-rd., f.g.r. 8*l.*, reversion in 41 yrs. 285

Kilmorie-rd., f.g.r. 28*l.*, reversion in 94½ yrs. .. 700

By S. WALKER & SON.

Peckham.—6 and 7, Lyndhurst-sq., f., e.r. 110*l.*.. 1,710

8 and 9 Lyndhurst-sq., f., y.r. 55*l.* 890

10, Lyndhurst-sq., f., y.r. 43*l.* 920

Denman-rd., a plot of freehold land..... 430

Hackney.—16, Church-cres., u.t. 51½ yrs., g.r. 6*l.* 6s., e.r. 40*l.* 410

Forest Hill.—36, St. Germains-rd., f., y.r. 32*l.* .. 450

By A. BURTENSHAW & SON (at Hailsham).

Hailsham, Sussex.—2 to 8, Millwalk-cottages and a cottage adjoining, f., w.r. 68*l.* 5s. 800

Westham, Sussex.—Upper and Lower Tothams Enclosures, 18 a. 0 r. 25 p., f. 1,630

Two enclosures of marsh land, 12 a. 0 r. 2 p., f. 1,140

Pevensey, Sussex.—Two enclosures of marsh land, 11 a. 3 r. 27 p. f. 480

By CUNNAH & ROBERTS (at Middlewich).

Davenham, Cheshire.—The Cross Lanes Farm, 68 a. 2 r. 11 p., f. 3,500

Middlewich, Cheshire.—Six cottages and 7 a. 1 r. 7 p., f. 750

A freehold field, 6 a. 2 r. 29 p. 380

By T. WOODS (at Hounslow).

Hounslow, Middx.—London-rd., The Hollies and Caswell House; also building site adjoining, f., p. 3,225

1 to 7, Holly-pl., f., w.r. 113*l.* 2s. 1,425

1 to 9, Blake's Cottages, c., w.r 89*l.* 9s. 8d..... 1,200

May 15.—By LANGRIDGE & FREEMAN (at Maidstone)

Yalding, Kent.—Collier-st., Spitzbrook Estate, 190 a., f., y r. 355*l.* 6,130

By R. & C. SNELL (at Axminster).

Kilmington, Devon.—Closes of land, 22 a., f. 1,725

Mount Hungary Closes, 19 a., f. 140

By CRANFIELD & OLIPHANT.

Balham.—Chestnut-grove, f.g.r.'s 43*l.* 1s., reversion in 74 yrs. 1,085

By EMPIRE FREEHOLD DEVELOPMENT CO.

Kensington.—46, Sinclair-rd., u.t. 73 yrs., g.r. 15*l.*, y.r. 60*l.* 650

30, St. James's-sq., u.t. 75 yrs., g.r. 15*l.* 15s., e.r. 65*l.* 455

By FAREBROTHER, ELLIS, & Co.

Old Bond-st.—No. 44 (S), area 1,105 ft., f., y.r. 600*l.* 19,700

Wimbledon Common.—Parkside, Brant House and 2¼ a., f., p. 9,000

Hamstead.—19 and 20, New End, f., y.r. 64*l.* 16s. 865

By FIELD & SONS.

Bermondsey.—7 to 13, Earl Cottages, u.t. 18¼ yrs., g r. 3*l.* 10s., w.r. 163*l.* 16s. 670

27 and 29, Earl-rd., u.t. 18¼ yrs., g.r. 5*l.* 15s., w.r. 65*l.* 235

Peckham.—123 to 129 (odd), Peckham Park-rd., and 25, Bird-in-Bush-rd., f., w.r. 130*l.* 8s..... 2,040

29 and 31, St. Mary's-rd., u.t. 31 yrs.. g.r. 15*l.*, y.r. 72*l.* 400

Southwark.—19, Prices-st., c., w.r. 20*l.* 16s..... 210

By GLASIER & SONS.

Winterbourne St. Martin, Dorset.—Perpetual fee farm rents of 77*l.* 17s. 3d. per annum £2,050

By NEWBON, EDWARDS & SHEPHARD.

Caledonian-rd.—No 300 (S.), u.t. 42 yrs., g.r. 5*l.* 11s., y.r. 50*l.* 460

Holloway.—92, George's-rd., and 7, Hope-st., f., y.r. 52*l.* 16s. 510

Highgate.—22, Langdon Pk.-rd., u.t. 77½ yrs., g r. 7*l.*, y.r. 40*l.* 490

Homerton.—51A, 53, and 55, Digby-rd., f., w.r. 50*l.* 14s. 590

Hackney.—3, 6, 7, 8, and 10, Ruthven-st., u.t. 49½ yrs., g.r. 22*l.* 10s., y.r. 181*l.* 12s. 1,490

By PYKE, PYKE, & HOWLAND.

Tottenham Court-rd.—26, Tottenham-st., f., y.r. 110*l.* 1,600

Caledonian-rd.—Bingfield-st., The Pembroke Castle p.-h., i.g.r. 105*l.*, u.t. 38⅝ yrs., g.r. 45*l.* 1,150

Finsbury Park.—St. Thomas-rd., The Plimsoll Arms p.-h., i.g.r. 105*l.*, u.t. 65 yrs., g.r. 30*l.*.. 3,235

By STIMSON & SONS.

West Smithfield.—5, Cloth Fair (S), f., y.r. 48*l.*.. 970

New Cross.—81, Woodpecker-rd. (S), and stabling in rear, u.t. 59½ yrs., g r. 7*l.* 10s., y.r. 70*l.*.... 830

Nynehead-st., a plot of building land, f. 170

Brixton.—47, Knowle-rd., u.t. 60 yrs., g.r. 5*l.* 10s. y.r. 38*l.* 335

Herne Hill.—45, Dulwich-rd., u.t. 61 yrs., g.r. 4*l.* 10s., y.r. 45*l.* 410

Dulwich.—2, Piermont-rd., u.t. 76 yrs., g.r. 6*l.* y.r. 34*l.* 310

Peckham.—139, Hollydale-rd., u.t. 71½ yrs., g.r. 4*l.* 15s., y.r 32*l.* 8s. 280

20, Mortlock-gdns, u.t. 51½ yrs., g.r. 4*l.* 10s., p. 220

127, Gloucester-rd., u.t. 40½ yrs., g.r. 8*l.*, e.r. 40*l.* 250

Stratford.—112 to 122 (even), Maryland-rd., u.t. 70 yrs., g.r. 18*l.*, w.r. 146*l.* 18s. 875

1 to 20, Ruth-st., u.t. 70 yrs., g.r. 42*l.*, w.r. 399*l.* 7s. 2,095

By EDWIN EVANS (at Clapham Junction).

Battersea.—29, Granfield-st., u.t. 64½ yrs., g.r. 4*l.* 10s., w.r. 35*l.* 2s. 228

41, Middleton-rd., u.t. 67 yrs., g.r. 5*l.* 10s., y.r. 36*l.*, ... 340

7, Cairns-rd., u.t. 76 yrs., g.r. 6*l.*, y.r. 30*l.* 245

114, Mallinson-rd., u.t. 75½ yrs., g.r. 5*l.* 5s., y.r. 39*l.* 295

May 16.—By C. H. BROWN.

Kennington.—6, Fairford-grove, u.t. 28½ yrs., g.r. 5*l.* for 11½ yrs. and 6*l.* thereafter, w.r. 41*l.* 12s. 250

By WATERER & SONS.

Walton-on-Thames, Surrey. — Oatlands Pk., Marrowells and 5 a. 1 r. 17 p., f., p. 2,910

By WYATT & SON (at Emsworth).

Westbourne, Sussex.—Penny Lane, &c., five arable fields, 44 a. 2 r. 29 p., f. 1,565

Prinstead, Sussex.—Plummer's Field and piece garden ground, 7 a. 3 r. 37 p., f. 295

May 21.—By JOHN H. BULMER.

Charlton, Kent.—1, Sundorne-rd., u.t. 65¼ yrs., g.r. 4*l.*, e.r. 32*l.* 340

Deptford.—13, Hoopwick-st., u.t. 65¼ yrs., g.r. 4*l.* 15s., w.r. 31*l.* 4s. 360

Rotherhithe.—47, Union-rd., u.t. 46 yrs., g.r. 4*l.*, p. 405

By FOSTER & CRANFIELD.

Enfield.—Chase Side, The (late) British Schools, area ¾ acre, f., p. 1,800

Walthamstow.—34, 36, 38, 40, 50, and 52, Hazlewood-rd., u.t. 77 yrs., g.r. 25*l.* 4s., w.r. 163*l.* 16s. 1,075

By ALEX. H. TURNER & Co.

Hounslow, Middx.—St. Stephen's-rd., Perivale Lodge, f., p. 1,350

By WILLIS, CROUCH, & LEE.

Lambeth.—5 and 7. Priory-rd., f., y.r. 85*l.* 1,475

Pimlico.—1 and 3, Winchester-st., u.t. 26 yrs., g.r. 18*l.*, y.r. 120*l.* 985

Holloway.—308 to 318 (even), Hornsey-rd., f., y.r. 216*l.* 3,600

By WM. NORTON (at Leintwardine).

Leintwardine, &c., Hereford.—5 freehold fields, 17 a. 1 r. 20 p. 560

By FRANCIS PITTIS & SON (at Totland Bay).

Totland, Isle of Wight.—Yarmouth-rd., a freehold building site, 7 acres 2,150

Yarmouth-rd., enclosure of land, 4 a. 1 r. 14 p., f. 780

Yarmouth-rd., enclosure of pasture, 3 r. 25 p., f. 120

Alum Bay-rd., block of building land, 4 a. 3 r. 14 p., f. 1,300

Yarmouth-rd., freehold meadow land, 1 a. 1 r. 9 p. 130

May 22.—By BISLEY & SONS.

Rotherhithe.—270, Rotherhithe-st. (S), f., y.r. 30*l.* 500

Rotherhithe-st., a plot of land, area 5,372 ft., f... 130

5 to 13 (odd), Swan-lane, f., w.r. 89*l.* 14s. 1,120

7, Paradise-st. (S), f., y.r. 24*l.* 340

23, St. Marychurch-st., f., w.r. 2*l.* 2s. 290

12, Fulford-st., f., w.r 24*l.* 14s. 300

Bermondsey.—62 and 63, Salisbury-st., f., w.r. 3*l.* 8s 495

112 to 122 (even). Lynton-rd., u.t. 37 yrs., g.r. 24*l.*, w.r. 189*l.* 16s. 1,360

9 and 10, Lynton-mews, u.t. 33¼ yrs., g.r. 7s., w.r. 52*l.* 250

40, 41, 42, 43, and 43A, Enid-st., u.t. 15 yrs., g.r. 7*l.* 10s., w r. 119*l.* 12s. 480

By BROAD, WILTSHIRE, & PENNY.

Sydenham.—Rowland-gve., f.g.r.'s 5*l.*, reversion in 63½ and 64 yrs. 1,108

Rowland-gve., f.g.r.'s 70*l.*, reversion in 64 and 54 yrs. 1,535

By HERRING, SON, & DAW.

Streatham.—5, Killieser-av., u.t. 77 yrs., g.r. 18*l.*, e.r. 80*l.* 600

By C. C. & T. MOORE.

St. George's East.—7 to 33 (odd), Everard-st., f., w.r. 279*l.* 10s. 2,840

Limehouse.—20, Limehouse-causeway, c., w.r. 20*l.* 16s. 205

4, 6, 12, and 14, Endive-st., u.t. 63 yrs., g.r. 8*l.*, w.r. 86*l.* 8s. 4d. 230

Chadwell Heath, Essex.—Willow-rd., four plots of building land, f. 115

By NEWBON, EDWARDS, & SHEPHARD.

Stroud Green.—75, 89, and 91, Florence-rd., u.t. 76½ yrs., g.r. 22*l.*, y.r. 138*l.* 1,445

Canonbury.—1, Sebbon-st., u.t. 16 yrs., g.r. 6*l.* 6s., y.r. 33*l.* £145

Islington.—1 to 5, Dibden-st., u.t. 42 yrs., g.r. 30*l.*, w.r. 156*l.* 800

9, 11, 13, 15, and 18, Pickering-st., u.t. 42 yrs., g.r. 30*l.*, w.r. 149*l.* 10s. 675

Hoxton.—106, Murray-st., u.t. 40 yrs., g.r. 5*l.* 5s., y.r. 36*l.* 355

By STIMSON & SONS.

Kentish Town.—Hawley-rd., f.g.r.'s 3*l.* 10s., reversion in 36½ yrs. 380

Clarence-rd., f.g.r.'s 2*l.* 10s., reversion in 36½ yrs. 403

Hartland-grove, f.g.r.'s 4*l.*, reversion in 36½ yrs. 440

Haverstock Hill.—Nos. 51, 53, and 55, u.t. 35 yrs., g.r. 22*l.* 10s., y.r. 208*l.* 1,400

Nos. 57 and 59, u.t. 36 yrs., g.r. 18*l.*, y.r. 170*l.*. 910

Walworth.—Deacon-st., i.g.r. 30*l.*, u.t. 63 yrs., g.r. 10*l.* 190

Brandon-st., &c., i.g.r. 225*l.*, u.t. 48 yrs., g.r. 152*l.* 1,120

Brandon-st., &c., i.g.r. 140*l.*, u.t. 62 yrs., g.r. 80*l.* 960

Brixton.—Geneva-ter., i.g.r.'s 34*l.*, u.t. 64 yrs., g.r. 2*l.* 610

Bermondsey.—343, 345, and 347, Southwark Pk.-rd. (S), f., y.r. 110*l.* 1,280

Brixton.—Atlantic-rd., &c. i.g.r.'s 45*l.*, u.t. 64 yrs., g.r. 10*l.* 700

Notting Hill.—Oxford-gdns., i.g.r. 15*l.*, u.t. 73 yrs., g.r. 10*l.* 310

Ladbroke-grove, i.g.r. 8*l.*, u.t. 61½ yrs., g.r. nil 165

By J. A. & W. THARP.

Leyton.—33, Vicarage-rd., f., y.r. 26*l.* 420

8, Amberley-rd., f., p. 360

By R. & C. SNELL (at Axminster).

Colyton, Devon.—Suddon's Farm, 76 a. 2 r. 30 p., f. 3,200

Road Pitt Farm, 130 a. 2 r. 27 p., f. 3,350

Purlbridge Mill Farm, 25 a., 0 r. 33 p., f. 1,500

Four closes of overland, 17 a. 2 r. 21 p., f. 155

Blackacre holding, 18½ a., f. 1,070

May 23.—By ARBER, RUTTER, WAGHORN, & BROWN.

Westminster.—12, Regent-pl., f., y.r. 35*l.* 1,000

25, New-st., f., p. 750

By B. PERCY ABRAMS.

Bethnal Green.—93 to 99 (odd), Treadway-st., u.t. 34½ yrs., g.r. 16*l.*, w.r. 139*l.* 2s. 680

Tottenham.—56, Tynemouth-rd., u.t. 67½ yrs., g.r. 5*l.* 10s., e r. 28*l.* 265

By DUNCAN & KIMPTON.

Forest Gate.—41, Sebert-rd., u.t. 82 yrs., g.r. 7*l.* 7s., y.r. 32*l.* 240

Brixton.—1, Trelawn-rd., u.t. 77½ yrs., g.r. 6*l.* 10s., y.r. 34*l.* 275

Camberwell.—24 and 25, Rust-sq., u.t. 56 yrs., g.r. 12*l.* 16s., w.r. 91*l.* 445

Peckham.—51 and 53, Dunstan-rd., u.t. 75 yrs., g.r. 10*l.*, w.r. 67*l.* 12s. 360

1 and 1a, Tappesfield-rd., and 1a, Banstead-st., with stabling in rear, u.t. 66 yrs., g.r. 9*l.* 5s., y.r. 67*l.* 8s. 350

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; w.r. for weekly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 11 0	per 1,000 alongside,	in river
Rough Stocks and Grizzles	1 9 0	"	" "
Facing Stocks	2 12 0	"	" "
Shippers	2 5 0	"	" "
Flettons	1 8 0	"	at railway depôt.
Red Wire Cuts ..	1 12 0	"	" "
Best Fareham Red	3 12 0	"	" "
Best Red Pressed Ruabon Facing.	5 5 0	"	" "
Best Blue Pressed Staffordshire ..	4 6 6	"	" "
Do., Bullnose	4 11 0	"	" "
Best Stourbridge Fire Bricks	4 6 0	"	" "
GLAZED BRICKS			
Best White and Ivory Glazed Stretchers.....	13 0 0	"	" "
Headers	12 0 0	"	" "
Quoins, Bullnose, and Flats	17 0 0	"	" "
Double Stretchers	19 0 0	"	" "
Double Headers..	16 0 0	"	" "
One Side and two Ends	19 0 0	"	"
Two Sides and one End	20 0 0	"	" "
Splays, Chamfered, Squints.....	20 0 0	"	" "
Best Dipped Salt GlazedStretchers and Headers ..	12 0 0	"	" "
Quoins, Bullnose, and Flats	14 0 0	"	" "
Double Stretchers	15 0 0	"	" "
Double Headers..	14 0 0	"	" "
One Side and two Ends	15 0 0	"	" "
Two Sides and one End	15 0 0	"	" "
Splays, Chamfered, Squints.....	14 0 0	"	" "
Seconds Quality WhiteandDipped Salt Glazed....	2 0 0	less than best.	

[*See also page 551.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums	Designs to be delivered
*New Labourers' Dwellings	Liverpool Corporation	250*l.*, 150*l.*, 100*l.*	Sep. 15
*Municipal Buildings, Fire Station, Public Baths, &c.	Tottenham U.D.C.	200*l.*, 100*l.* and 50*l.*	Sep. 23
*Memorial to Queen Victoria at Allahabad	The Committee	2,000 Rupees	Nov. 1

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Iron Building	Grimsby Corporation	H. G. Wyatt, Civil Engineer, Town Hall, Grimsby	June 3
Sewerage Works	Easingwold R.D.C.	Fairbank & Sons, Civil Engineers, 13, Lendal, York	do.
Alterations to Workhouse	Eastry (Kent) Guardians	W. J. Jennings, Architect, 4, St. Margaret's-street, Canterbury	do.
Sewerage Works, Roundhay and Seacroft	Leeds R.D.C.	Spinks & Pilling, Engineers, 20, Park-row, Leeds	do.
Sewerage Works	Sudbury (Suffolk) Town Council	T. W. A. Hayward, Civil Engineer, Town Hall, Sudbury	do.
Additions to Stables, Weston-super-Mare	Mr. R. Dart	S. J. Wilde, Architect, Weston-super-Mare	do.
Drainage Works, &c.	Bristol Corporation	T. H. Yabbicom, Civil Engineer, 63, Queen-square, Bristol	do.
Road Works, Victoria-road	Great Crosby (Lancs) U.D.C.	W. Hall, Civil Engineer, Council Offices, Great Crosby	do.
Sewer, Abbey-street	Wicklow U.D.C.	Surveyor, Town Hall, Wicklow	do.
Road Works, Cranbrook-road, &c.	Croydon Town Council	E. Mawdesley, Town Hall, Croydon	do.
Tennis House, &c., The Park	Hebburn U.D.C.	Surveyor, Council Offices, Hebburn	do.
Vicarage, Rhayader, Radnor	...	R. W. Thomas, Architect, Llandrindod Wells	do.
Cottage, Bowling Green-street, Warwick	...	F. P. Trepess, Architect, 1, Church-street, Warwick	do.
Two Houses, Elland, Yorks	...	F. F. Beaumont, Architect, Southgate-chambers, Halifax	June 4
Sewerage Works, Tirphil	Gelligaer R.D.C.	J. P. Jones, Engineer, Hengoed, via Cardiff	do.
Sewerage Works, Stapenhill-road, &c.	Burton-upon-Trent Corporation	G. T. Lynam, Borough Surveyor, Town Hall, Burton-on-Trent	do.
Hospital, Newby-lane	Scarborough Town Council	H. W. Smith, Borough Engineer, Town Hall, Scarborough	do.
Sewers, &c., Barton-under-Needwood	Tutbury R.D.C.	Willcox & Raikes, Engineers, 63, Temple-row, Birmingham	do.
Setts (310 yards)	Stainland, &c., U.D.C.	J. H. Walker, Surveyor, Stainland	do.
Road Widening, Skewen	Glam. County Council	T. M. Franklen, Westgate-street, Cardiff	do.
Sewers, &c., Ember-lane, Thames Ditton	Esher U.D.C.	A. J. Henderson, Civil Engineer, Brabant Villa, Thames Ditton	do.
Filter Works, Hough Side	Pudsey (Yorks) Corporation	J. Jones, Borough Surveyor, Church-lane, Pudsey	June 5
Road Materials	Chatham Corporation	C. Day, Borough Surveyor, Town Hall, Chatham	do.
Hospital Pavilion	Prestwich (Lancs) Guardians	T. Worthington & Son, Architects, 46, Brown-street, Manchester	do.
One Hundred Artisans Dwellings, Queenstown, Ireland	Queenstown Naval Dwellings Co.	W. H. Hill & Son, Architects, 28, South Mall, Cork	do.
Church, Sidwell-street, Exeter	...	F. J. Commin, Surveyor, 7, Bedford-circus, Exeter	do.
Church Restoration, Aberdare	...	E. M. B. Vaughan, Architect, Cardiff	do.
Church Restoration, Chapelthorpe, Wakefield	...	Rev. L. Busch, Chapelthorpe, Wakefield	June 6
*Cleaning and Painting 105 Houses, Cricklewood	Midland Railway	Company's Architect, Cavendish House, Derby	do.
Additions to Schools, Newhirst, Ashington	...	Rev. M. Cuthbert, The Manse, Ashington	do.
House, Seafield-square, Rothes, N.B.	Mr. A. J. Sharp	W. Sharp, Rothes	do.
Street Works, Adelaide-road	Chichester Corporation	City Surveyor, Town Hall, Chichester	do.
Waterworks, Austwick	Settle (Yorks) R.D.C.	T. A. Foxcroft, Surveyor, Town Hall, Settle	June 7
Water Mains, near Barnsley	Worsborough U.D.C.	J. Whitaker, Surveyor, Worsborough Bridge	do.
Widening Simonstone-lane	Burnley R.D.C.	S. Edmondson, 18, Nicholas-street, Burnley	do.
Re-building Forge Bridge, Halesowen	Worcester County Council	A. E. Brooks, Surveyor, King's Norton	do
Water Supply Works	Forres (N.B.) Town Council	R. Urquhart, jun., Forres	do.
Additions to Vicarage, near Castleton	...	T. Stokes, Architect, Thirsk	do.
*Baths and Washhouses, Mansfield, Haggerston	Shoreditch Borough Council	A. W. S. Cross, 58, Conduit-street, Regent-street, W.	do.
Two Houses, Whitehaven	...	Pickering & Co., Architects, 11, Lowther-street, Whitehaven	June 9
*Water Supply Works, Kingsbury, Somerset	Langport R.D.C.	Bailey-Denton & Co., Civil Engineers, Palace Chambers, S.W.	do.
Seven Houses, Lonsdale-road, Barnes	...	F. & W. Stock-r, Architects, 90, Queen-street, E.C.	do.
Engine House, &c., Boughton	Nottingham Corporation	W. B. Starr, Architect, 12, St. Peter's-gate, Nottingham	do.
Water Supply Works, Kingsbury, Somerset	Langport R.D.C.	Bailey-Denton & Co., Civil Engineers, Palace Chambers, S.W.	do.
Road Works	Liversedge (Yorks) U.D.C.	A. E. Rhodes, Architect, Heckmondwike	do.
Vestry, Tyntyla, Llwynypia, Wales	Trustees	Lewis & Morgan, Architects, Tonypandy	do.
Surveyor's Materials	Ely U.D.C.	G. M. Hall, Market-square, Ely	do.
Road Works, Shrubbery-road	Southall-Norwood U.D.C.	R. Brown, Civil Engineer, Public Offices, Southall	June 10
Pumping Station, Reservoirs, &c.	Lydney R.D.C.	J. F. Trew, Civil Engineer, Station-road, Gloucester	do.
*Erection of Mortuary, Canning Town	West Ham Council	Council's Engineer, Town Hall, West Ham, E.	do.
*Making-up Streets	do.	do.	do.
*Paving Sides of Roads	do.	do.	do.
*Shelter for Infectious Diseases	Camberwell Borough Council	Borough Engineer, Town Hall, Camberwell	do.
*Supply of Granite and Flints	Kingston-on-Thames Corporation	Borough Surveyor, Clattern House, Kingston-on-Thames	June 11
*Erection of New Schools	Salford Corporation	B. Bower, 14, Temple-street, Birmingham	do.
*New Pavilion at Borough Sanatorium	Brighton Borough Council	Council's Engineer, Town Hall, Brighton	June 12
Boundary Wall, Ore	Hastings Guardians	A. W. Jeffery, Architect, 5, Havelock-road, Hastings	do.
Road Works, Ruislip, Middlesex	Uxbridge R.D.C.	J. F. Stow, Surveyor, Corn Exchange, Uxbridge	do.
Market, &c., Corporation-street	Dewsbury Corporation	H. Dearden, Civil Engineer, Town Hall, Dewsbury	June 16
Chapel and Lodge, Liverpool-road South	Birkdale U.D.C.	A. Schofield, Architect, 45, Weld-road, Birkdale	do.
Five Shops, Chapel-street	Rugby Co-operative Society	J. T. Franklin, Architect, Regent-street, Rugby	June 17
Drainage Works, Bothwell, N.B.	Lanark County Council	W. L. Douglass, Civil Engineer, District Offices, Hamilton	do.
*Supply of Cast Iron Pipes	Croydon Lunacy Visiting Com.	Borough Engineer, Town Hall, Croydon	do.
*Erection of Dwellings for Working Classes	London County Council	Architect's Department, 19, Charing Cross-road, S.W.	do.
*New Schools at Montague and Houndsfield-roads	Edmonton School Board	Board's Architect, 99, Church-street, Lower Edmonton	do.
*Reconstruction of Hadham Mill Bridge	Herts County Council	Urban A. Smith, 41, Parliament-street, S.W.	June 18
*Public Conveniences, South End Green	Hampstead Borough Council	Borough Engineer, Town Hall, Hampstead, N.W.	June 19
*New Church, Badshot Lea, near Aldershot	The Committee	Mission Church, Badshot Lea	do.
*New Workhouse and Infirmary	Hammersmith Guardians	Giles, Gough & Trollope, Architects, 28, Craven-st., Strand, W.C.	June 23
Erection of Schools	Ilford School Board	C. J. Dawson, Architect, 7, Bank-buildings, Ilford, Essex	do.
*Converting Baths into Technical Institute	London County Council	Architect's Department, 18, Pall Mall East, S.W.	do.
*Stoneware, &c.	South Stoneham R.D.C.	Bailey-Denton, Son, Lawford & Symons, Palace-chmb. Westminster	July 7
*Periodical Painting, Hounslow Barracks	War Department	Royal Engineer Office, 41, Charing Cross, S.W.	No date
Farmhouse, Clydach, Wales	Mrs. Wood	Jones, Richards, & Co., 95, St. Mary-street, Cardiff	do.
Shops and Houses, Ainsworth-road	Bury (Lancs) District Co-op. Soc.	D. Hardman, Architect, Agar-street, Bury	do.
Twelve Houses, Low-road, Horsforth, Leeds	...	W. E. Richardson, Architect, Rothwell, near Leeds	do.
Four Cottages, Outgang Aspatria, Cumberland	...	Mrs. Graham, Outgang, Aspatria	do.
Three Houses, Kinnaird Park, Bromley, Kent	...	W. Prebble, Architect, Bromley	do.
Seventeen Cottages, Woodhouse, Sheffield	...	F. G. Buxton & Co., Market-place Chambers, Sheffield	do.
Restoration, Church, Thurlestone, Kingsbridge, Devon	...	G. H. F. Prynne, Architect, 6, Queen Anne's-gate, Westminster	do.
Library Schools, Newton Abbot, Devon	...	S. Trevail, Architect, Truro	do.
*Additions to Fishponds Church, Bristol	...	E. H. Lingen Barker, Architect, 15, Bridge-street, Bristol	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Assistant Surveyor	Acton U.D.C.	180*l.*	June 10
*Engineering Assistant	do.	135*l.*	do.
*Clerk of Works	Southall-Norwood U.D.C.	3*l.* 3*s.* per week	June 11
*General Assistant	City of Norwich	132*l.*	June 14

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, p. iv. *Contracts*, pp. iv. vi. viii. x. & xxii. *Public Appointments*, xviii.

PRICES CURRENT (*Continued*).

BRICKS, &c.

	£ s. d.	
Thames and Pit Sand	7 3	per yard, delivered.
Thames Ballast	6 0	,, ,,
Best Portland Cement	31 0	per ton, delivered
Best Ground Blue Lias Lime	25 0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	10s. 6d. per yard, delivered
Stourbridge Fire-clay in sacks	26s. 6d. per ton at rly. dpt.

STONE.

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. depot.
Bath ,,	1 7	,, ,,
Farleigh Down Bath	1 8	,, ,,
Beer in blocks	1 6	,, ,,
Grinshill ,,	1 10	,, ,,
Brown Portland in blocks	2 2	,, ,,
Darley Dale in blocks	2 4	,, ,,
Red Corsehill ,,	2 5	,, ,,
Closeburn Red Freestone	2 3	,, ,,
Red Mansfield ,,	2 4	,, ,,
Hard York in blocks	2 10	,, ,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	s. d. 2 8	per ft. super. at rly. depôt.
,, ,, 6 in. Rubbed Ditto	3 0	,, ,,
,, ,, 3 in. sawn both sides slabs (random sizes)	1 3	,, ,,
,, ,, 2 in. self-faced Ditto	0 9½	,, ,,
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube. deld. rly. depôt.
,, ,, ,, 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt.
,, ,, ,, 3 in. do.	1 2½	,, ,,

SLATES.

in. in.	£ s. d.	
20X10 best blue Bangor	12 0 0	per 1000 of 1200 at ry. dep.
,, best seconds ,,	11 10 0	,, ,,
16X 8 best ,,	6 17 6	,, ,,
20X10 best blue Portmadoc	11 7 6	,, ,,
16X8 best blue Portmadoc	6 5 0	,, ,,
20X10 best Eureka unfading green	13 10 0	,, ,,
16X 8 ,, ,,	7 10 0	,, ,,
20X10 permanent green	10 10 0	,, ,,
16X8 ,, ,,	6 0 0	,, ,,

TILES.

	s. d.	
Best plain red roofing tiles	41 6	per 1,000, at rly. depôt.
Hip and valley tiles	3 7	per doz. ,, ,,
Best Broseley tiles	48 6	per 1,000 ,, ,,
Hip and valley tiles	4 0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 ,, ,,
Do. ornamental Do.	60 0	,, ,, ,,
Hip tiles	4 0	per doz. ,, ,,
Valley tiles	3	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000 ,, ,,
Hip tiles	4 1	per doz. ,, ,,
Valley tiles	3 8	,, ,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 10 0	16 0 0
Deals: best 3 by 9	13 10 0	15 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	10 10	11 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	,, ,, ,,
2 in. by 4 in. and 2 in. by 6 in.	8 10 0	9 10 0
2 in. by 4½ in. and 2 in by 5 in.	8 0 0	9 0 0
Foreign Sawn Boards— 1 in. by 12 in. by 12 in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (30 ft.)	3 0 0	3 10 0
JOINERS' WOOD. White Sea: First yellow deals, 3 in. by 11 in.	At per standard. 22 0 0	23 0 0
3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Second yellow deals, 3 in. by 11 in.	18 0 0	20 0 0
,, ,, 3 in. by 9 in.	16 10 0	18 10 0
Battens, 2½ in. and 3 in. by 7 in.	13 0 0	14 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	15 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	20 0 0	21 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens	13 0 0	14 0 0
Second yellow deals, 3 in. by 11 in.	15 0 0	16 10 0
Do. 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Third yellow deals, 3 in. by 11 in.	12 10 0	13 10 0
Do. 3 in. by 9 in.	12 0 0	13 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:— First white deals, 3 in. by 11 in.	14 0 0	15 0 0
,, ,, ,, 3 in. by 9 in.	13 0 0	14 0 0
Battens	11 0 0	12 0 0
Second white deals 3 in. by 11 in.	13 0 0	14 0 0
,, ,, ,, 3 in. by 9 in.	12 0 0	13 0 0
,, ,, ,, battens	9 10 0	10 10 0
Pitch-pine: deals	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0

PRICES CURRENT (*Continued*).

WOOD.

	At per standard. £ s. d.	£ s. d.
Yellow Pine—First, regular sizes	32 0 0	33 10 0
Broads (12 in. and up)	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs—Large, per ft. cube	0 2 6	0 3 0
Small ,, ,,	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7½	0 0 8
¾ in. do. do.	0 0 7	- - -
Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks— Per ft. cube	0 3 0	0 3 6
Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 0	0 16 6
1 in. by 7 in. yellow, planed and matched	0 13 6	0 17 6
1¼ in. by 7 in. yellow, planed and matched	0 15 0	1 0 0
1 in. by 7 in. white, planed and shot	0 11	0 12 6
1 in. by 7 in. white, planed and matched	0 11 6	0 13 6
1¼ in. by 7 in. white, planed and matched	0 13 6	0 15 6

6 in. at 6d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 2 6	7 2 6
Compound Girders ,, ,,	7 17 6	8 17 6
Angles, Tees and Channels, ordinary sections	7 17 6	8 17 6
Flitch Plates	8 5 0	8 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 0 0	8 0 0

METALS.

	Per ton, in London £ s. d.	£ s. d.
IRON— Common Bars	7 15 0	8 5 0
Staffordshire Crown Bars, good merchant quality	8 5 0	8 15 0
Staffordshire "Marked Bars"	10 10 0	- - -
Mild Steel Bars	9 0 0	9 10 0
Hoop Iron, basis price	9 5 0	9 10 0
,, ,, galvanised	16 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.— Ordinary sizes to 20 g.	10 0 0	- - -
,, ,, to 24 g.	12 0 0	- - -
,, ,, to 26 g.	12 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Sheet Iron, Galvanised, flat, best quality:— Ordinary sizes to 20 g.	16 0 0	- - -
,, ,, 22 g. and 24 g.	16 10 0	- - -
,, ,, 26 g.	18 0 0	- - -
Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 0 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.	14 5 0	- - -
Cut nails, 3 in. to 6 in.	9 5 0	9 15 0

(Under 3 in. usual trade extras.)

LEAD, &c.

	Per ton in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	14 7 6	- - -
Pipe in coils	14 17 6	- - -
Soil Pipe	17 7 6	- - -
ZINC—Sheet— Vieille Montagne ton	24 10 0	- - -
Silesian	24 0 0	- - -
COPPER— Strong Sheet per lb	0 1 0	- - -
Thin ,,	0 1 1½	- - -
Copper nails ,,	0 1 1½	- - -
BRASS— Strong Sheet ,,	0 0 11	- - -
Thin ,, ,,	0 1 1	- - -
TIN—English Ingots ,,	0 1 3½	- - -
SOLDER—Plumbers' ,,	0 0 6½	- - -
Tinmen's ,,	0 0 8½	- - -
Blowpipe ,,	0 0 10	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
,, fourths	2¾d. ,, ,,
21 oz. thirds	3¼d. ,, ,,
,, fourths	3d. ,, ,,
26 oz. thirds	4¼d. ,, ,,
,, fourths	4d. ,, ,,
32 oz. thirds	5¼d. ,, ,,
,, fourths	5d. ,, ,,
Fluted sheet, 15 oz.	3d. ,, ,,
,, 21 ,,	4d. ,, ,,
½ Hartley's Rolled Plate	2d. ,, ,,
⅝ ,, ,, ,,	2¼d. ,, ,,
½ ,, ,, ,,	2½d. ,, ,,

PRICES CURRENT (*Continued*)

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes	0 2 8	per gallon
,, ,, ,, in barrels	0 2 9	,,
,, ,, ,, in drums	0 2 11	,,
Boiled ,, ,, in pipes	0 2 10	,,
,, ,, ,, in barrels	0 2 11	,,
,, ,, ,, in drums	0 3 1	,,
Turpentine, in barrels	0 2 8	,,
,, in drums	0 2 10	,,
Genuine Ground English White Lead	21 0 0	per ton
Red Lead, Dry	20 10 0	,,
Best Linseed Oil Putty	0 8 6	per cwt.
Stockholm Tar	1 12 0	per barrel

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 0
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 18 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

BEXLEY.—For farm buildings, farm house, and lodge at Woollet Hall, Bexley, Kent, for Mr. Ronald Keep. Mr. Ernest H. Abbott, architect, 6, Warwick-court, Gray's Inn, W.C. Quantities by Mr. A. Johnson, 34, Imperial-buildings, Ludgate-circus, E.C.:—

Farm Buildings.

Stebbing & Pannett	£1,400 0 0	Henry Dunn	£1,326 19 8
		W. H. Smith	1,218 12 3

Farm House.

F. P. Duthoit	£997 0 0	S. Salt	£870 0 0
W. G. Brown	975 0 0	Ellingham & Sons	867 10 9
J. Lonsdale	933 0 0	Stebbings & Pannett	750 0 0
R. & E. Evans	929 0 0		
Henry Dunn	918 15 10		
W. H. Smith	883 0 0		

Lodge.

F. P. Duthoit	£597 0 0	Ellingham & Sons	£457 13 0
R. & E. Evans	526 0 0	Henry Dunn	453 19 6
W. G. Brown	495 0 0	Stebbing & Pannett	400 0 0
J. Lonsdale	487 0 0		
S. Salt	473 0 0		
W. H. Smith	463 5 9		

BRENTWOOD.—For the erection of house and stabling, Hutton, for Mrs. Farnes. Mr. J. Walter Wyles, architect, St. Stephen's Chambers, Telegraph-street, E.C.:—

J. Bruty	£2,582 0 0	Smith & Son	£2,200 0 0
Hammond & Son	2,481 0 0	G. Abbott	2,184 0 0
W. J. Watts	2,278 0 0	A. & J. Cross*	2,063 5 10

BUSHEY.—For the construction of sewers, manholes, &c., at Bushey, for the Watford Rural District Council. Mr. Ernest Lailey, Engineer and Surveyor, Council Offices, Watford:—

Henkins	£1,082	G. R. Mann	£769
Davis & Bennett	1,002	G. Pithin	687
Soam	938	H. Brown, Watford*	629
Meston & Hale	863	Swaker	622
Dean	833	G. F. Judge	600
Dupont & Co.	823		

COWES (I.W.)—For the erection of a residence, Baring-road, Cowes, for Miss Sophia Groves. Mr. Philip Sturdy, architect, Bournemouth.—

H. E. Day	£2,495	Brading & Son	£2,200
Brown & Sons	2,419	John Nichol, Southampton*	1,790
Ball & Son	2,381		

[*See also next page.*

CROPWELL BUTLER (Notts).—For alterations and additions to the Plough Inn. Mr. Fred G. Martin, architect, Dudley-chambers, Angel-row, Nottingham :—

W. Wilson	£450	0	0	H. Parr, Radcliffe*	£411	1	4
J. Bates	433	0	0				
W. Bickerstaff	412	8	4				

CROYDON.—For the erection of winter gardens and conservatory at 79, Coombe-road, Croydon, for Mr. A. Dyer. Mr. M. S. Reilly, architect, Edridge-road, Croydon. Quantities by Mr. J. Kennard, 104, George-street, Croydon :—

J. Westbrook, Thornton Heath	£1,470	Funnell & Co., Croydon	£1,329
Underwood & Co., Croydon	1,412	Worsfold & Sons, Addiscombe	1,320
W. Potter, Croydon	1,400	Akers & Co., South Norwood	1,233
D. W. Barker, Croydon	1,370	Huntley Bros., Croydon	1,231
Hanscomb & Smith, Croydon	1,344		

DONCASTER.—For the erection of stores, stabling, &c., St. Sepulchre Gate, for Messrs. Ind, Coope, & Co. Mr. J. R. Dodds, C.E., 19, Baxter Gate, Doncaster :—

F. Parkinson	£182 0	G. Mottram	£175 0
J. C. Wombell	179 0	E. Randerson*	164 6

[All of Doncaster.]

ELLON (N.B.).—For additions, &c., to school and house, Drumwhindle, for the School Board. Mr. Wm. Davidson, architect, Ellon :—

Masonry.—R. Mutch, Craighall*	£95	5	6
Carpentry.—R. Burgess*	83	0	0
Slating.—W. Fyvie, Ashlea*	38	15	6
Plastering.—A. & J. Seivewright, Inverurie*	32	13	10

FARNBOROUGH (Kent).—For the erection of a pair of semi-detached houses. Mr. Money Marsland, architect, 68, Great Tower-street, E.C. :—

Wallis & Sons	£1,792
Smith & Sons	£1,549
W. Owen*	£1,460

HASTINGS.—For the erection of an iron building at the Fish Market, for the Corporation. Mr. P. H. Palmer, C.E., Town Hall, Hastings :—

Lightfoot & Ireland, Stoke Newington*	£285

KIRKCALDY, N.B.—For the demolition and reconstruction of The Wheatsheaf Inn, for Mr. James Anderson. Mr. D. Forbes Smith, architect, Kirkcaldy. Quantities by the architect :—

Masonry.—D. Wilkie, Sinclairtown*	£284	0	0
Joinery.—Bogie & Nicol, Kirkcaldy*	404	8	9
Plastering.—W. Grant, Kirkcaldy*	96	0	0
Plumbing.—H. Hutchison, Kirkcaldy*	144	9	0
Slating.—D. Stark, Kirkcaldy*	5	7	6

KIRKCALDY, N.B.—For the erection of tenements, Harriet-street, Sinclairtown, for Mr. Colin Cummings. Mr. D. Forbes Smith, architect, Kirkcaldy :—

Masonry.—D. Wilkie, Sinclairtown*	£744	0	0
Joinery.—H. Masterton, Sinclairtown*	564	0	0
Plastering.—H. Masterton, Sinclairtown*	253	0	0
Plumbing.—D. Dougall, Pathead*	125	10	0
Slating.—G. Johnston, Dysart*	63	16	0

LURGAN (Ireland).—For the erection of seventeen cottages for the Rural District Council. Mr. R. H. Dorman, County Surveyor, Armagh :—

	10 Houses. Each.	7 Houses. Each.
Thos. Collen, Tanderagee	£134 10	£132 10

[Fencing and drains own work.]

WALTHAMSTOW.—For additions, &c., to boys' and girls' departments, Higham Hill Schools, for the School Board. Mr. H. Prosser, architect, School Board offices, Walthamstow. Quantities by Mr. G. T. G. Wright, 3, Great Winchester-street, E.C. :

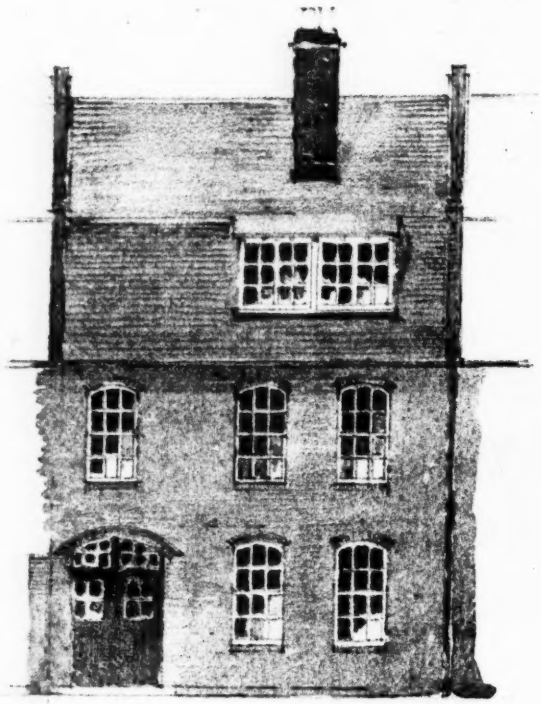
S. Parmenter, Braintree	£3,863	0	0
J. & J. Dean, Walthamstow	3,476	0	0
B. E. Nightingale, Lambeth	3,350	0	0
Sands, Palmer, & Co., Walthamstow	3,350	0	0
Chessum & Sons, Bow	3,329	0	0
R. & E. Evans, Peckham	3,298	0	0
Viney & Stowe, Haverstock Hill	3,279	0	0
Foster Bros., Norwood	3,257	0	0
Hammond & Son, Romford	3,195	0	0
Knight & Son, Tottenham	2,928	0	0
Pollard & Brand, Tottenham	2,730	0	0
Rowley Bros., Tottenham	2,655	7	2

WOKING.—For the erection of a detached house, Heathside Park Estate, for Mr. E. A. Brine. Messrs. W. G. Jones & Clinton, architects, 3, Broadway, Woking :—

Harris & Son*	£1,268

WOKING.—For the erection of a detached house, York-road, for Mr. S. Gloster. Messrs. W. G. Jones & Clinton, architects, 3, Broadway, Woking :—

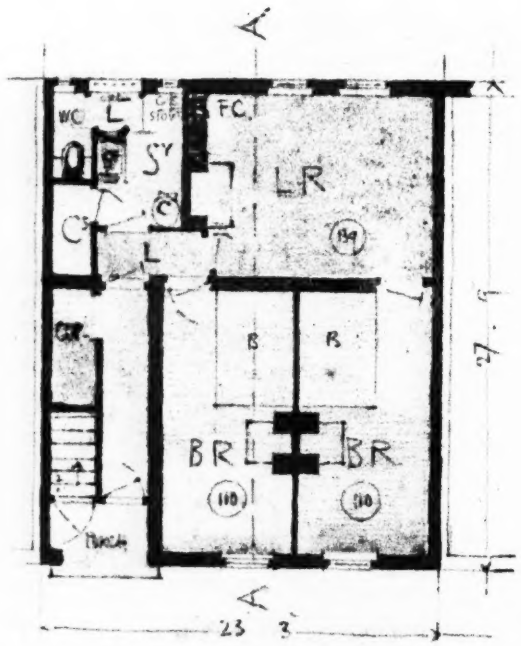
F. Aylott	£1,250	0	Ingram & Son £1,153 0
Harris & Son*	1,184	0	G. Allard 1,125 0
A. A. Gale	1,174	0	W. Aird 1,115 18



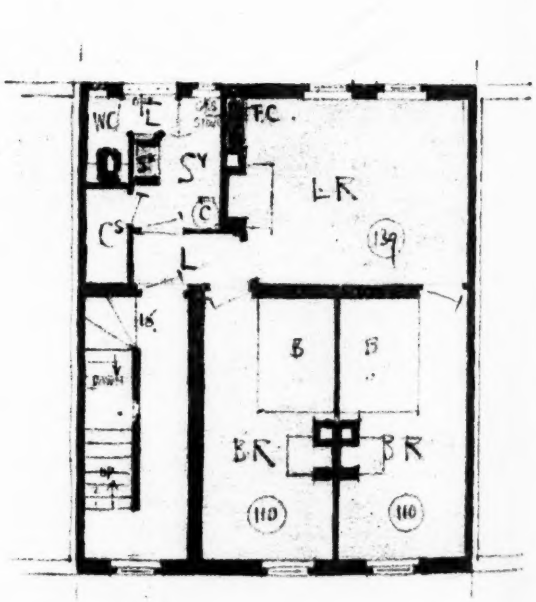
REPEAT → 3 Roomed Tenement. 3 Stories high. ← REPEAT

·FRONT·ELEVATION·

·BACK·ELEVATION·



GROUND FLOOR PLAN

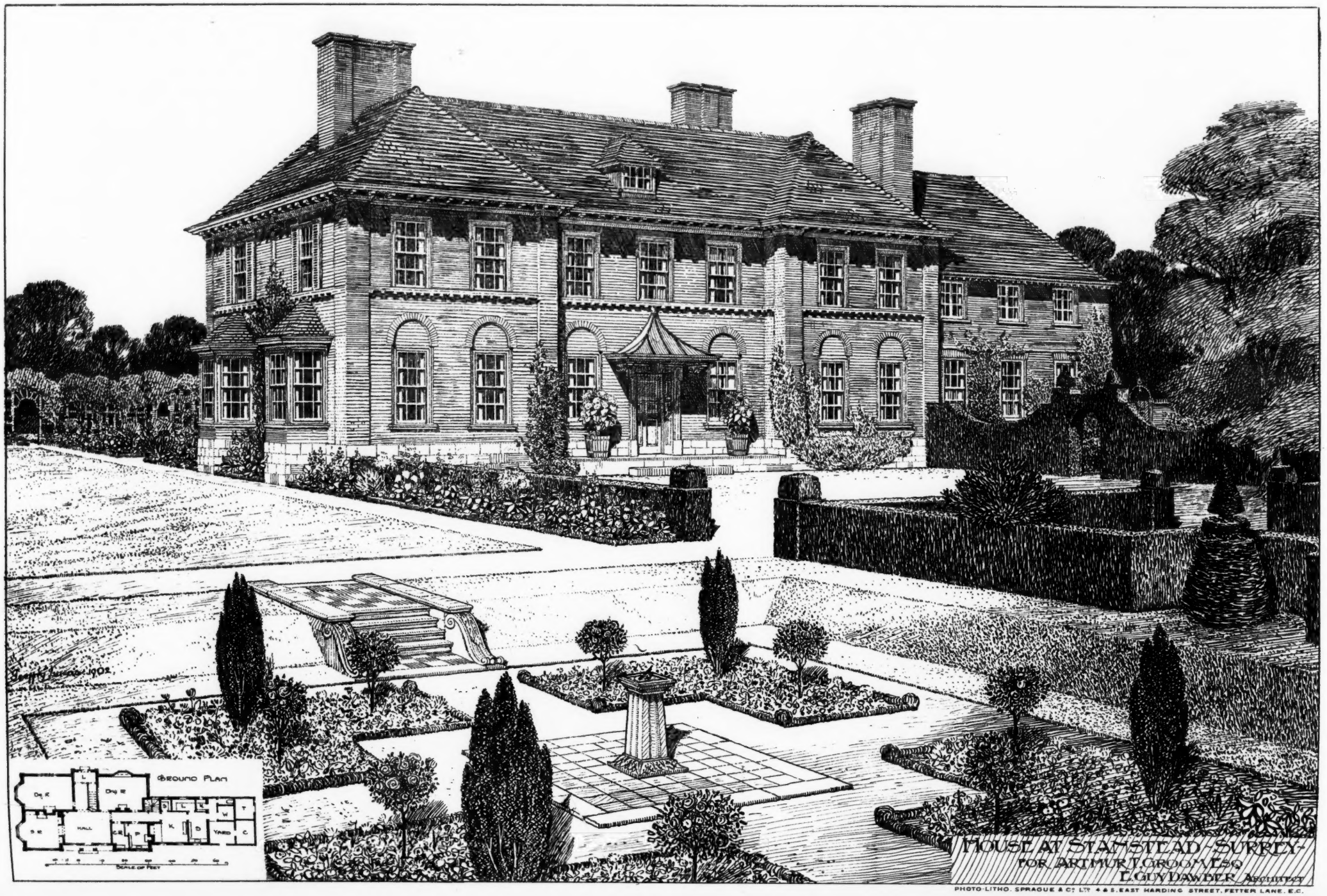


FIRST FLOOR PLAN

SCALE OF 10 5 0 10

BATTERSEA WORKING-CLASS HOUSES COMPETI

MESSRS. SMITH



HOUSE AT STAPLEAD, SURREY.
FOR ARTHUR T. CROOMBS, ESQ.
L. GUY DAWBER, ARCHITECT.

PHOTO-LITHO. SPRAGUE & Co. LTD. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5. EAST HARDING STREET, FETTER LANE, E.C.

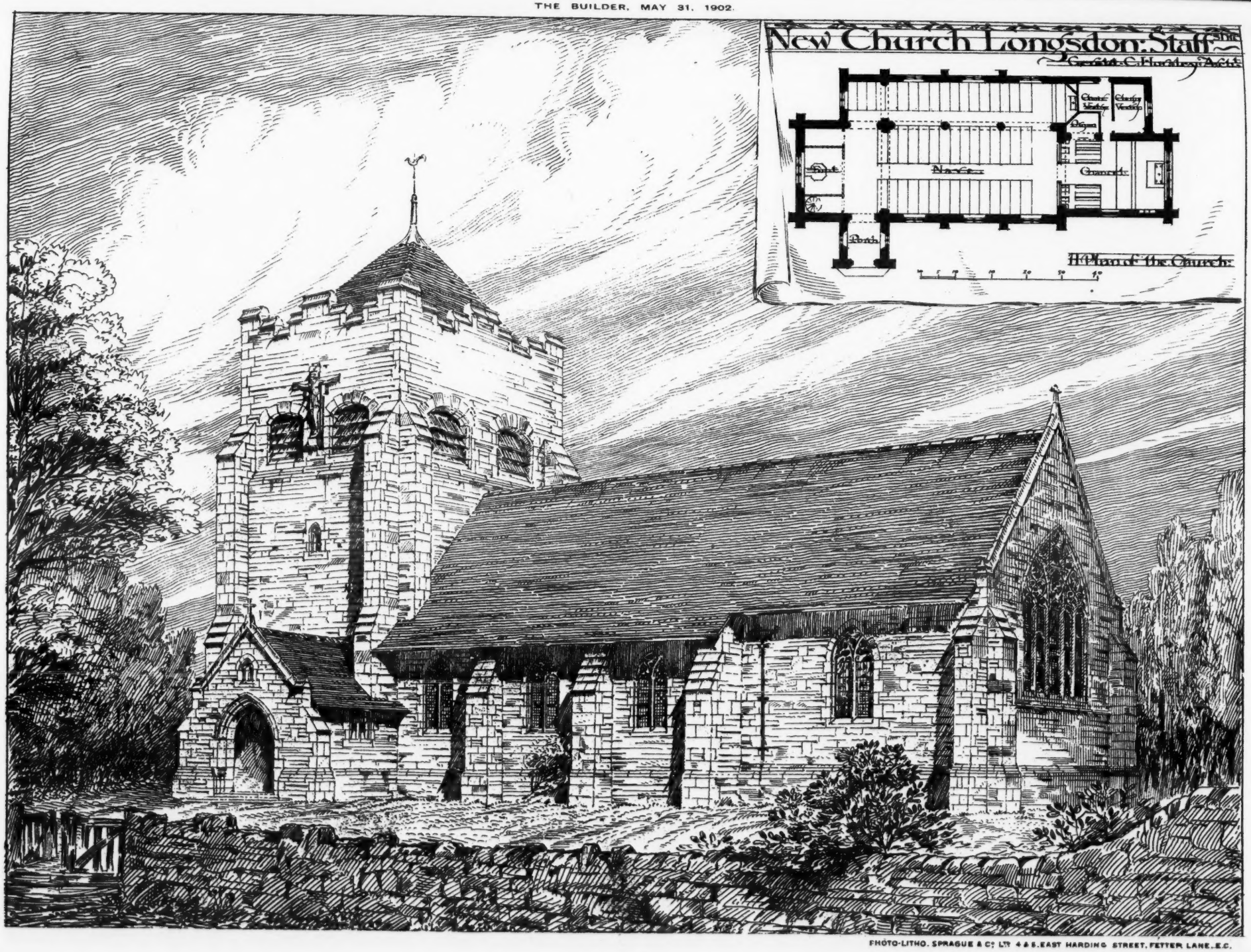
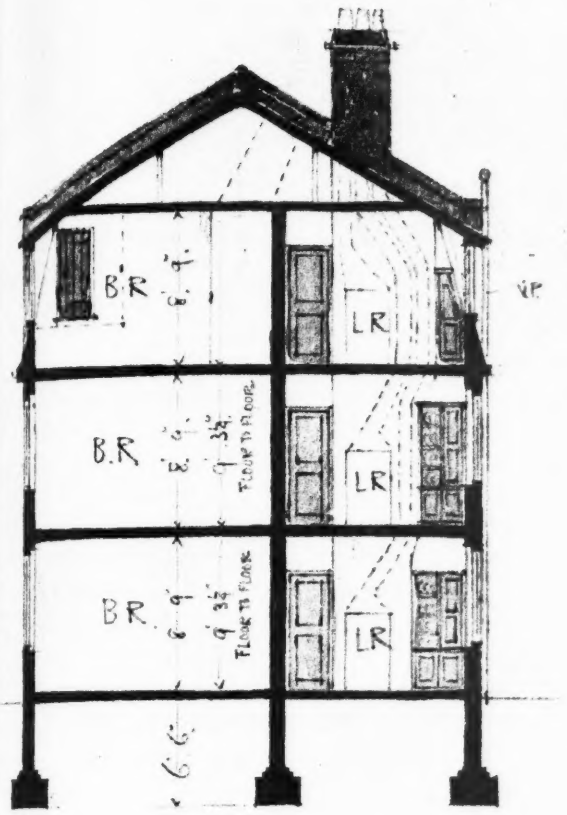
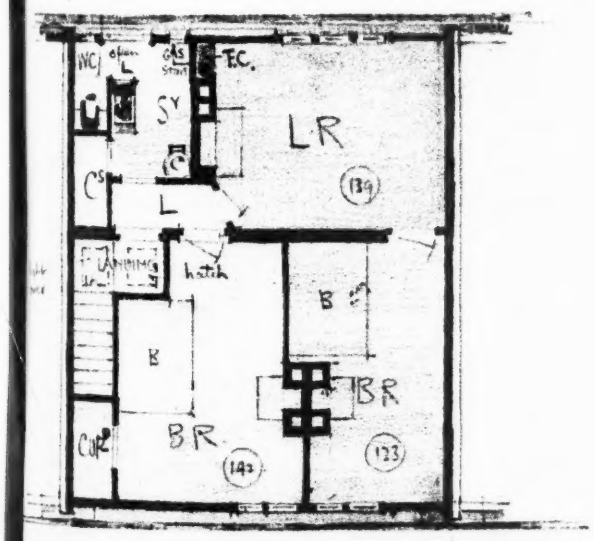


PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5. EAST HARDING STREET, FETTER LANE, E.C.

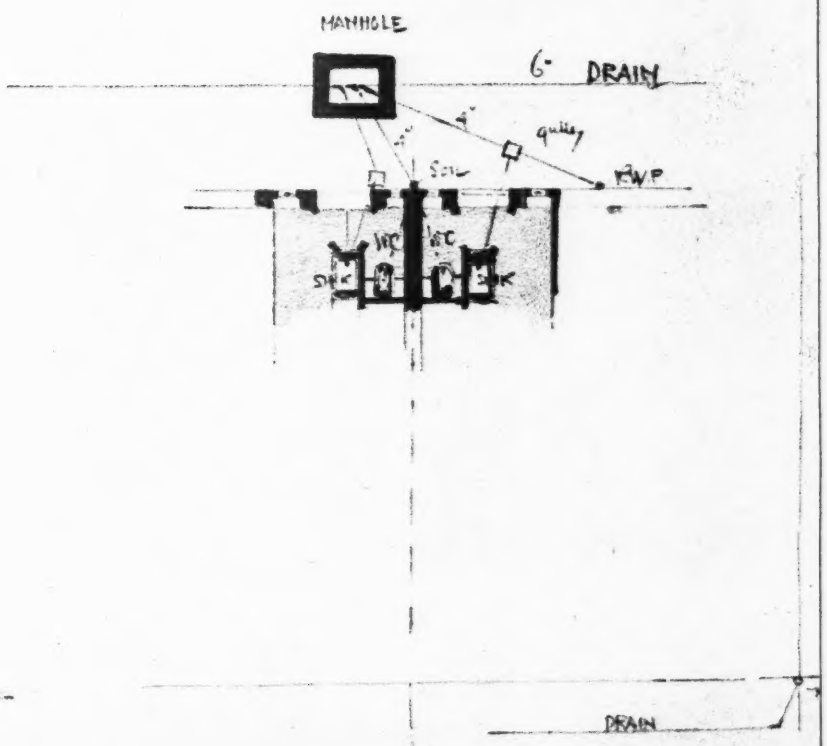


SECTION A·A·

· LR DENOTES · LIVING ROOM ·
· B.R " · BED ROOM ·
· SY " · SCULLERY ·
· SK " · SINK ·
· CS " · COALS ·
· C " · COPPER ·
· L " · LOBBY ·
· F.C " · FOOD CUPBOARD ·
· B " · BED ·
(110) " · FLOOR AREA · (IN SUPERFICIAL FEET·



SECOND FLOOR PLAN



DRAINAGE PLAN

30 40 50 60 FEET

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

4 OF THE FIRST PREMIATED SET OF PLANS
ARCHITECTS.


ART

St. Paul's School for Girls: The Central Hall.

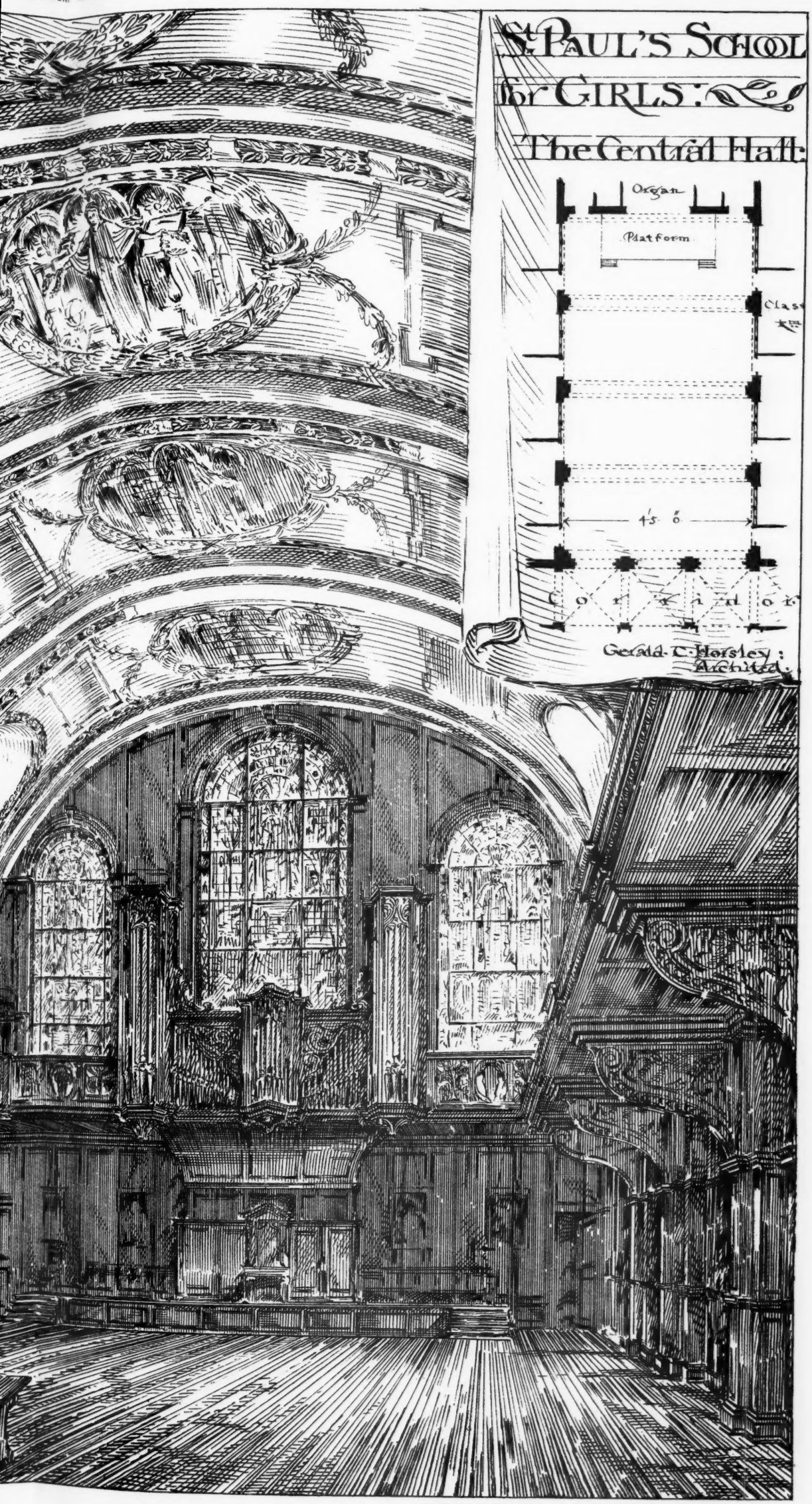
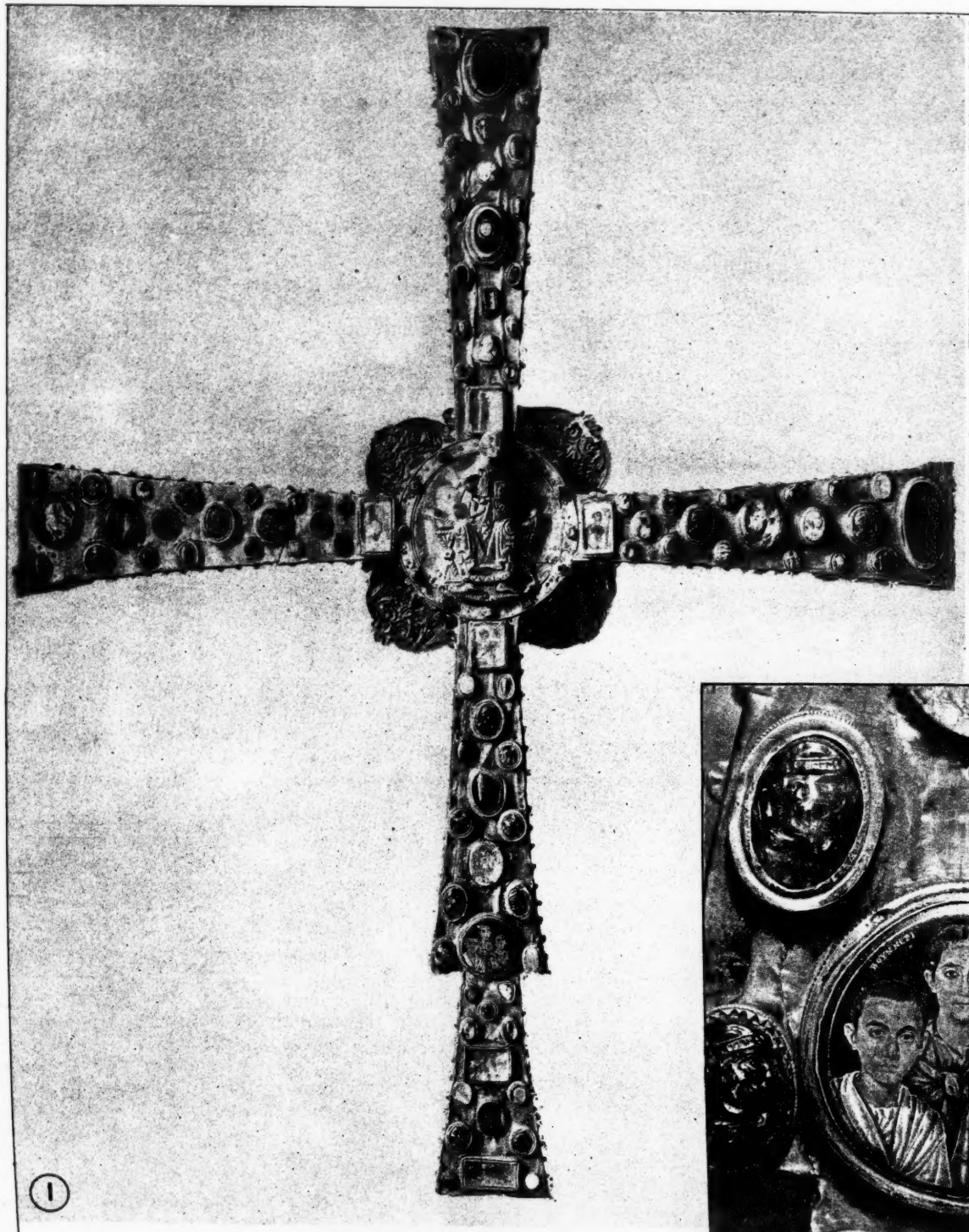
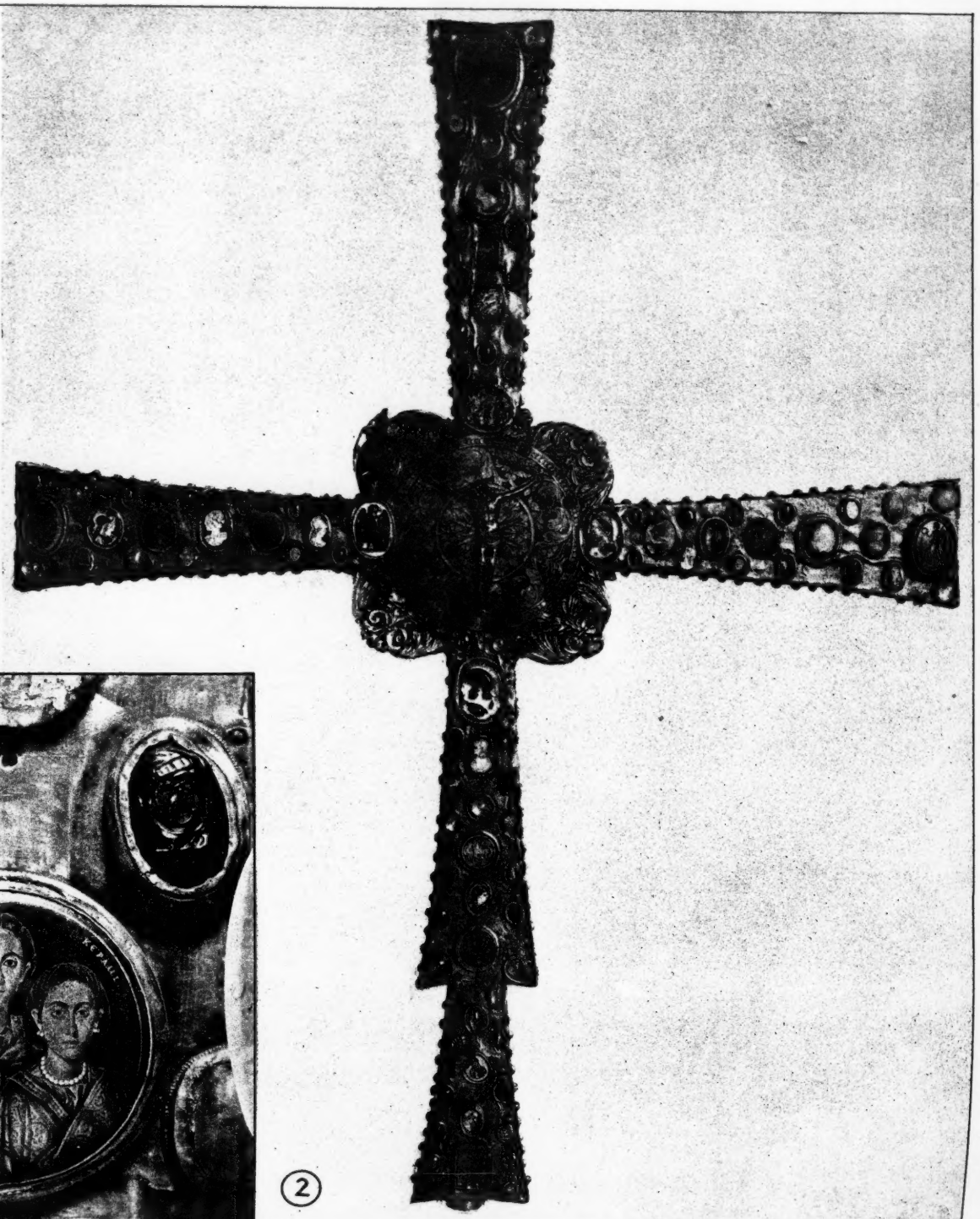


PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.



(1)



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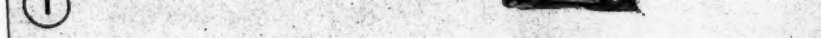

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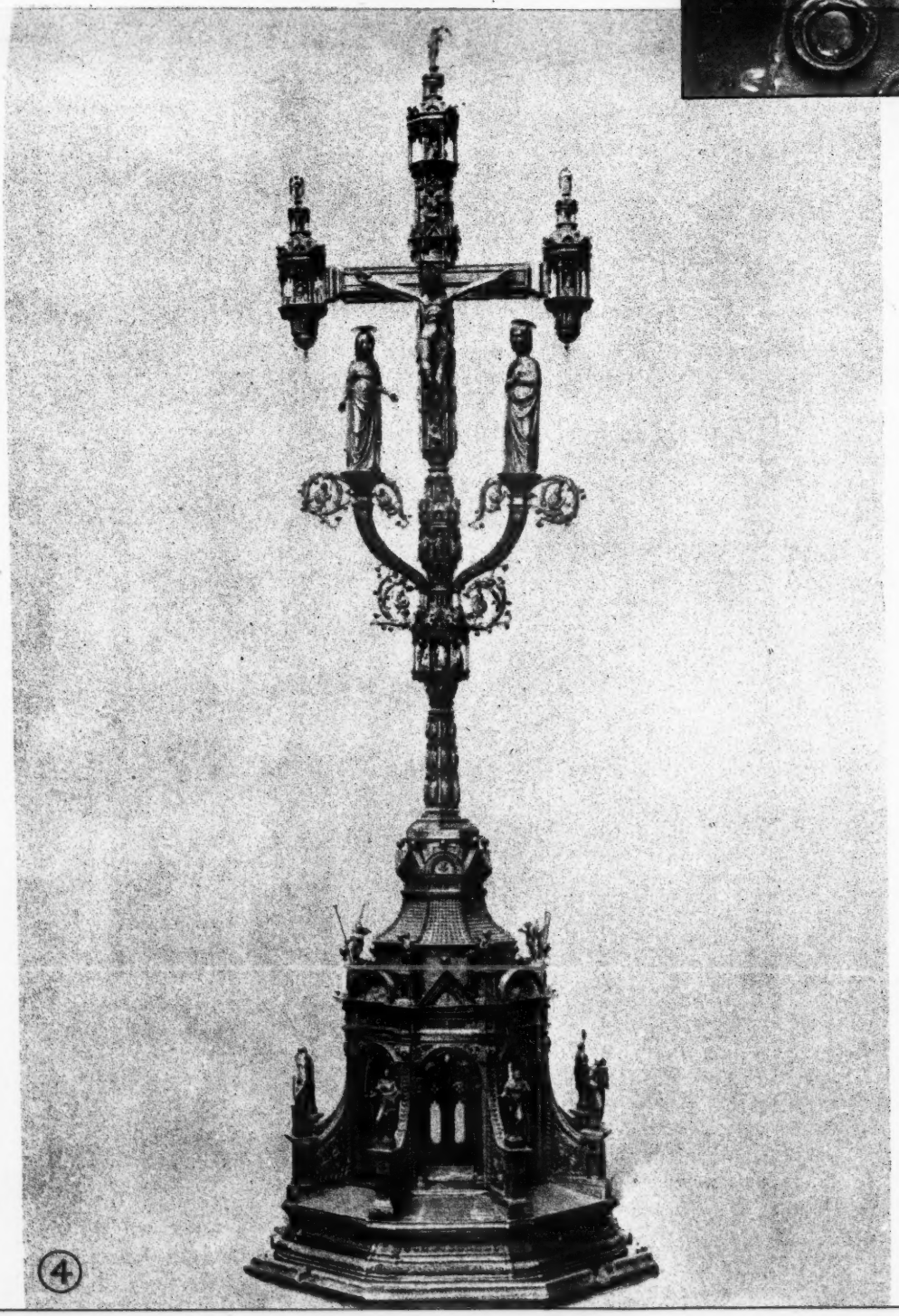

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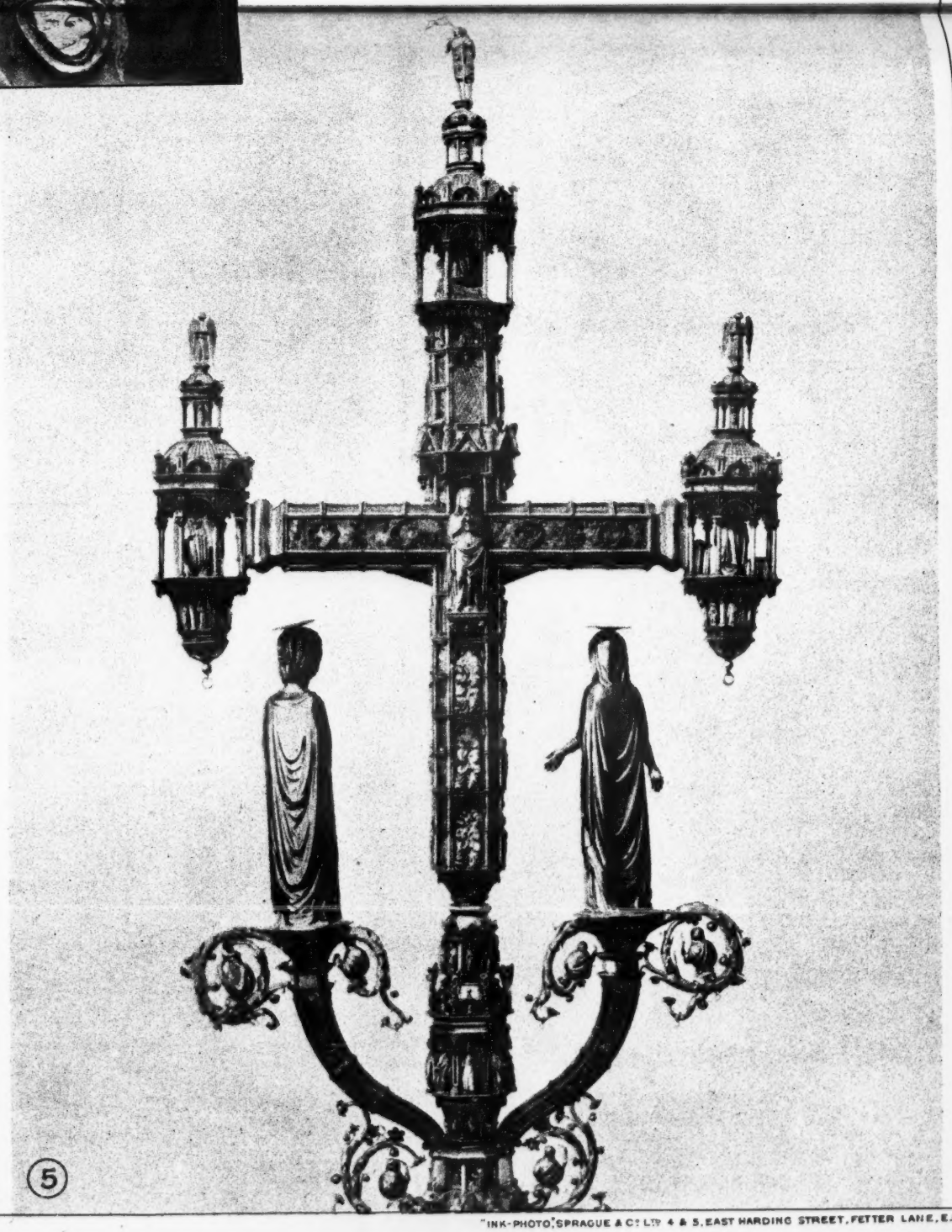

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"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

1 & 2.—A BYZANTINE CROSS IN BRESCIA MUSEUM. 3.—A DETAIL OF SAME.
4 & 5.—A CROSS IN CREMONA CATHEDRAL.